NEW [illegible] FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES. **Boston, April, 1871.** VOL. V.---NO. 4.

R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. MONTHLY. SIMON BROWN, S. FLETCHER, } EDITORS.

APRIL, 1871.

"The robin and the blue bird sing
O'er meadows brown and bare;
They cannot know what wond'rous bloom
Is softly budding there;
But all the joy their hearts outpour
Seems pulsing in the air."

FEW persons can recollect such weather as we have had for the last six months. The oldest heads say "It beats all," the almanac-makers are puzzled, and the astronomers are thrown out of gear as to the weather. The storms have ended with warm, calm airs, all through the autumn and winter. The rains did not descend, nor the floods come, when the plants were trying to grow, and the earth rolled round under the scorching sun until it became like a huge clay cake, just from a seven-times heated oven. As to spring thaws in this region, we shall have none, as there is no snow to be melted; there are no swollen streams, no "rippling rills," no "sounds as of a hidden brook," wander where you will. Cattle roam in search of a living stream; "grinding is low;" mill wheels are stopped; machinery is rusting, and men, women and children find their means of compensating the butcher, baker and grocer are getting low too.

But, as we write a little in anticipation of our fickle friend APRIL, all this may be changed before he appears; the brooks be singing, the meadows flooded, and the wheels revolving more merrily than ever. Even snow-drifts, as has happened before, may block the ways so that the traveller is snow-bound at the country inn, and large companies of persons, strangers to each other, are left for hours to their meditations, or to devise by their own ingenuity some source of amusement while badly snowed up in the cars, hungry, thirsty, and lucky if not half frozen, too! What a climate this of ours! And yet, who can say how it can accommodate us better.

At any rate, so long as it is too inclement to engage in labor upon the soil, it extends the time when

Plans for the Season may be Made.

This is a matter of more importance than many farmers give it. The carpenter would come out poorly who commenced hewing his timber for a frame without first learning the size and length required for his work. And so in every other calling. Success in any effort requires system. The farmer who enters his fields in the spring without some definite plan of proceeding, finds himself at a loss at every step. If he concludes to devote a certain field to corn, he finds, by-and-by, that another piece

is better adapted to that crop, and that he must change it. This is perplexing, and carries with it from day to day an uncertainty as to what is best to be done.

It is important, therefore, in the first place, that the farmer shall be fully acquainted with the different qualities of his soils, and their character as to being wet or dry. With this knowledge, he will be able, at his fireside, to determine what portions of land shall be ploughed for cultivation, and what particular crop shall be applied to each. Nothing of this kind should be left to be done when the time for sowing or planting has come, and men and teams are waiting to enter upon the work.

He who commences in the spring with this uncertainty and delay, will be quite likely to find himself in the whirlpool of doubt and difficulty, until another frost shuts up the earth.

We should neglect a duty, did we not urge upon the farmer

More Attention to the Garden.

No part of the farm can be made more profitable. It will be surprising to those who have not tried it, how much may be obtained from a well cultivated garden, towards supplying the table all through the summer and autumn months with fresh, nutritious and palatable food,—the early lettuce, radishes, asparagus, peas, onions, early potatoes, tomatoes, cabbage, beans, sweet corn, cucumbers, squashes and melons. Then there are the fruits; delicious strawberries for the breakfast or tea table, or for dessert at dinner, instead of costly puddings or pies; the raspberry, currant, or the white or black thimbleberry, that will grow and fruit abundantly on almost any soil. These are healthful, and highly appreciated by all, especially the children, and are altogether more wholesome than much meat in hot weather. Some hardy varieties of the blackberry, one of the finest fruits of New England, may also be grown in our fields or gardens.

These garden growths not only minister to our physical wants, but they save much money that is needed for other purposes,—for the mechanic, for household conveniences or comforts, for books, clothing, schools or the church.

"But," says one, "it is too puttering work, I cannot break my back over it; I had rather raise oats or potatoes, and buy the garden stuff." But he did no such thing; for when unexpected visitors came, he *borrowed* a few vegetables in order to break up the awful blank between the bread and meat upon the table. Without the garden, the vegetables and fruits are not abundant upon the farmer's table. We are happy to confess that a sensible change has taken place in this matter.

There is no real difficulty in the way of any farmer having a good garden. It need not be laid out in forms requiring the aid of a landscape gardener, but with those simple lines which would make it easy and convenient to work among the plants. These should be as far as possible in straight lines, so as to do a large portion of the work with a hand cultivator or wheel hoe. The women and children would assist in weeding, and in gathering the crops as they are wanted, so that the task of tending a garden would not be half as burdensome as is sometimes imagined.

But the robin and bluebird, the bare fields and swelling buds, all invite us into the open air, so we will quote part of an old song for the young folks who have read the foregoing about APRIL and the GARDEN, and then visit the singers in the orchard.

"Come listen to me, and so shall you be stouthearted and fresh as a daisy;
Not ready to chatter on every matter, nor bent over books till you're hazy;
No splitter of straws, no dab at the laws, making black seem white, so cunning!
But wandering down out o' the town, and over the green meadow running.
Ride, wrestle and play with your fellows so gay, all so many birds of a feather,
All breathing of youth, good humor, and truth, in the time of the jolly spring weather;
In the jolly spring time, when the poplar and lime dishevel their tresses together."

APRIL AFFAIRS ON THE FARM.

A person may pretty thoroughly understand his business, and yet sometimes forget to do a certain work at the time when it could most appropriately have been done.

For instance, how many times have you heard some of your neighbors say, within twenty-five years, that on the land that was in grain last summer and laid to grass in the fall, they forgot to

SOW CLOVER seed in the spring. There are hundreds of acres now lying within a few miles of us, which were laid to grass last fall, where it is the intention to sow clover seed

about the first of April. How many will be forgotten? This work should be done early. Sometimes it is done on the late snow, when the seed can be seen as it scatters, which is quite an assistance in getting it evenly distributed.

Mowing Fields ought to be visited and all brush from apple trees and rubbish of every kind gathered up so as to have clean work in haying.

Drains. Where drains are laid, each outlet should be examined to see that it is open, as frogs like to occupy them, and where water backs up grass and small sticks are likely to accumulate. It will be well to look at the whole line of the drain to see that it is in good order.

Stones on lands laid down last year ought to be taken away. It is not a mark of the best husbandry to see them standing in miniature pyramids all over the field. They are greatly in the way when mowing with a machine and when raking up the hay. They also occupy valuable ground, and often get scattered about again.

Ploughing. Soils ploughed while they are wet and heavy are likely to dry in lumps which become hard and are then unfit to prepare food for plants. If ploughing is delayed until the surface soil is sufficiently dry to fall to pieces when turned over by the plough, it will remain in that friable condition through the summer. It will then allow rain to pass freely through it, catching the ammonia contained in the rain, and letting in the air to give breath and activity to the soil. It seems better to be a little late in ploughing, than to plough when the soil is too wet. Plough deep should be the rule, excepting on lands that are mostly sand.

Barley and Oats afford better crops when got in early in April, if the soil is in suitable condition. It is a singular fact, that these crops rarely do as well if sowed as late as the middle of May as they do put in by the middle of April. There is something in the temperature of April congenial to them which they miss in late sowing.

The Door-Yard is an index to the farm. There will be little need for the traveller to pause and visit the barns and fields. He may find the counterpart to them around the house.

The Woman need machines of some kind in the house, as much as the man does in the fields. A good husband, who regards his wife and children as his greatest earthly good, will consider their wants, and supply them, so far as in his power. It is hard to keep the bloom and elasticity of youth, with the physical powers worn with too constant labor, and the mind perplexed with ceaseless cares and petty annoyances. Sweet tempers and sunny smiles in the household are worth more than bank shares or United States bonds, even at gold interest.

ESSEX COUNTY, MASS.

We always look over the Transactions of the Agricultural Society of this county with great satisfaction. There are no records of big purses awarded to the owners of fast horses; no items of money expended on the grading or repairing of "the best Track in the State," nor for fitting up the Grand Stand, or for keeping in order expensive buildings used only two or three days in a year; and, perhaps stranger than all, in these progressive days, no appropriations for the payment of the *debt* of the association!

But we do find statements of premiums paid to exhibitors in the amount of $1183.50; of funds in the hands of the treasurer amounting to $13,066.24, which was increased by the sum of $386.14 the past year. The society also owns a farm worth $7000; a valuable library, and the necessary fixtures for a genuine old fashioned rotary Cattle Show, to which the farmers of the whole county contribute; while most other counties in the State, in which the parent society has put up permanent buildings with the ubiquitous half-mile track and other local fixtures, have been divided and subdivided, until there are from two to six societies in each county.

Aside from all this, the addresses, reports of awarding committees, statements of competitors for premiums, &c., are more instructive and satisfactory than those given in the Transactions of most other agricultural societies of the State. The following are the officers of the Society for 1871:—

President—William Sutton, of Peabody.
Vice Presidents—Geo. B. Loring of Salem; E. G. Kelley, of Newburyport; John Keeley, of Haverhill; Benjamin P. Ware, of Marblehead.
Treasurer—Edward H. Payson, of Salem.
Secretary—Charles P. Preston, of Danvers.
Trustees—One from each town, and as Honorary Trustees, J. W. Proctor, of Peabody; Allen W. Dodge, of Hamilton, and Joseph How, of Methuen.

At a meeting, Nov. 15, the Trustees voted to continue the offer of fifty dollars for a scholarship in the Massachusetts Agricultural college to any young man of the county who can pass the required examination.

Ashes of Hard and Soft Wood.—It is generally supposed that the ashes of pine wood is not so rich in alkalies as that of hard wood. In his "Muck Manual," Dr. Dana says that, "in equal

weights, pine ash affords four times more alkali than the ash of hard wood." At the same time a *bushel* of hard wood ashes yields more alkali than a bushel of pine wood ashes; the ash of the pine being much the lightest. According to analysis only about 13½ parts in a hundred of hard wood ashes are "soluble," while of the yellow pine fifty parts are soluble.

We mention this as there is frequently a neglect in preserving the ash of soft woods, under the idea that it contains very little potash. In many towns, where large quantities of lumber are sawed out, hundreds of cords of saw dust are lying waste. We know of a single lumber yard where there are probably thousands of cords. Would it not be economical to set suitable heaps on fire, for the value of the ash which would be left, although the quantity of ash from pine is much less than from hard wood?

OFFICERS OF AG'L SOCIETIES.

CONTOOCOOK, N. H.—Annual meeting at Hillsboro' Bridge. The treasurer reported $693.12 on hand.

President—Moody McIlvin, Antrim Branch.
Vice Presidents—Erastus H. Bartlett, Deering; William Merrill, Hillsboro' Bridge.
Secretary—Daniel Johnson, Weare.
Treasurer—Edwin B. Morse, Hillsboro' Bridge.

WHITE RIVER VALLEY, VT.—*President*, Dudley C. Denison, of Royalton. *Vice Presidents*, R. H. Tupper, of Rochester, and Wm. C. Danforth, of Barnard. *Secretary*, Lorenzo Kent, Woodstock. *Treasurer*, Merrick Sylvester, Bethel. *Auditor*, G. E. E. Sparhawk, Gaysville.

NORTH PENOBSCOT, ME.—*Pres.*, W. R. Hersey; *Sec.*, E. A. Clifford, Lincoln.

NOBLESBORO CLUB, ME.—*Pres.*, J. F. Sanford; *Sec.*, J. B. Ham.

SIDNEY CLUB, ME.—*Pres.*, W. A. P. Dillingham; *Sec.*, J. S. Grant, Sidney Centre.

SOMERSET CENTRAL, ME.—*Pres.*, Hon. A. Coburn; *Sec.*, W. B. Snow.

A HINT ON HORSE-SHOEING.—A writer in the *Western Rural* says that a horse's shoes can be kept sharp at about one-half the usual cost by having the smith drive a small piece of cast-steel into each heel calk, and two into each toe. They can be cut conveniently from a strip of steel five-eights or three-fourths of an inch wide, and can be easily put into the toe calk while the shoe is being made. After the shoe is fitted, the calk should be hardened so that the steel will be as hard as a file.

EDUCATION.—In a speech recently in the House of Representatives at Washington, by the Hon. GEORGE F. HOAR, of Massachusetts, to establish a system of national education,—he said: "The best education is that which an individual derives from himself. Next to that comes the education of the family. Next comes that administered and controlled by the districts or the towns."

In a brief reference to agriculture he said:—"Agriculture has ceased to be a mere toil of human muscle, and has become a competition of science and intelligence."

The purpose of Mr. Hoar's bill is to establish by national authority a common school system which shall instruct all children of school age in the ordinary knowledge of reading, writing and arithmetic, in those States which fail or refuse to make such provisions by State authority. It would seem that some such coercion as this is absolutely necessary, if as shown, some *five or six million* of our adult population are unable to read and write.

EXPERIMENTS IN FEEDING HOGS.

Hon. L. W. Stuart, of Monmouth, Iowa, sends *The Prairie Farmer* the following account of careful experiments in swine fattening, made by himself last fall. It will be found of great interest, and will tend to settle some hitherto unsettled points in feeding. Mr. S. says:

I commenced my experiments October 24th, 1870, by weighing twenty hogs. With the exception of four, they were one year old in October and September. They had been fed two weeks previous to weighing for the experiment. The weight was 4,070 pounds. They were put upon the scales and weighed every Monday morning during the experiment. There was also an accurate account kept of the feed consumed each week, reckoning 56 pounds for a bushel of corn or meal. They were fed in a floored pen, and in troughs so arranged that no feed was wasted. Their sleeping apartments were also well provided with wheat and straw. They also had the range of a small lot. When they were fed on dry feed they were supplied with plenty of water. They were fed regularly three times per day. The experiments were continued for seventy days, closing on the second day of January, 1871; which day I sold them for five cents per pound. I take this as a basis for calculation in making up my estimates. The sum total in corn consumed in conducting my experiments the seventy days was 232 bushels. The net gain on the twenty hogs was 2,817 pounds, a trifle over two pounds per head per day. The weight at the time of selling was 6,887 pounds. The result of feeding was as follows:

They were fed twenty-eight days on dry shelled corn, and consumed eighty-three bushels; made a net gain of 837 pounds, which is equivalent to 18.00 pounds per bushel, which sold my corn thus fed, at fifty cents and four mills per bushel.

They were fed fourteen days on meal, ground fine and fed dry, and consumed forty-seven bushels; made a net gain of 553 pounds, which is equivalent to 11.76 pounds to one bushel of corn, which brought my corn to 58 cents and 8 mills per bushel.

They were fed fourteen days on meal mixed up with cold water, and consumed 55 1-2 bushels; made a net gain of 731 pounds,

which is equivalent to 13.17 pounds per bushel. In this trial I realized for my corn 65 cents and 8 mills per bushel.

They were fed fourteen days upon cooked meal, and consumed 46 1-2 bushels; their net gain was 696 pounds, which is equivalent to 14.96 pounds per bushel; this sold my corn for 74 cents and 8 mills per bushel.

Taking the two extremes, I find I got 24 cts. and 4 mills more per bushel for my corn by grinding and cooking, than when fed whole and raw. After deducting one-seventh for grinding, leaves 21 cents per bushel.

Had I ground and cooked the feed for my 20 hogs, I find I would have made 663 pounds more pork than I did, which would have given me $33.00 more.

I find it will require 345.51 bushels of raw corn to make 3,480 pounds of pork, and only 232 bushels when cooked—a difference of 112.6 bushels in favor of cooked feed.

HOW TO LOAD A WAGON.

Some three or four weeks ago the question was asked whether a wagon should be loaded heavier on the hind than on the front wheels. Your reply, though not asserted to be conclusive, implied that the load should be equally distributed. I propose a scientific elucidation of the subject, which will prove that the load should be heavier on the hind wheels, in the proportion of their diameter to the diameter of the front wheels.

A wheel is a lever, whose long arm, theoretically, is the distance from the ground to the centre of the axle; the short arm is a pivot; but, practically, it is impossible to construct a lever of such proportions. Hence, in calculating the advantage of the lever, a wheel or a lever, allowance must be made for the size of the axle, and for friction dependent on size, other things being equal. Without going into too elaborate a discussion, it will be sufficient to say in general terms that the power gained by a wagon wheel is in proportion to its semi-diameter, and hence that the load on a wagon should be placed proportionally to the diameters of the front and hind wheels.

Suppose the front wheels are four feet, and the hind wheels five feet in diameter—then five-ninths of the load should rest on the hind wheels and four-ninths on the front wheels.—*Cor. Rural New Yorker.*

GLASS-BLOWING.

The juvenile mineralogist, constructiug his first cabinet, brings home, as a rare curiosity, a crystaline stone which shines like glass. It *is* glass—the glass of nature, the foundation of much of modern civilization and science, without which neither astronomy, chemistry, nor physiology could ever have emerged from their crude condition, since without it neither the telescope, nor the chemist's vessels would have been possible. Subjected to an intense heat, and mixed with other substances, such as soda, lime, oxide of iron, oxide of lead, oxide of tin, according to the fabric to be wrought, it becomes ductile, is drawn out into the most tenuous threads, is rolled, beaten, moulded, cut at will, yields to even the slightest breath of the workman, and, patterned by him, takes any form he chooses to impart to it. Cooling, it loses its curiously ductile character, and becomes again the hardest and most brittle of substances. This quartz rock the boy fancies to be a precious stone. He is laughed at for his wild conjecture. It is a chance if he be not nearer right than those who ridicule him. Colored in nature's marvelous dye-house, it becomes precious only because it is more rare. Violet, it is an amethyst; uncrystalized and waxy in its structure, it is a chalcedony; red, it is a carn lian; of variegated colors, it is an agate; opaque, and yet colored, red, yellow, brown, it is a jasper. In a word, the same substance which is the chief component of glass is also the base of most precious stones, yet in its commonest form most precious of all; for we might well relinquish jasper, agate, chalcedony, and amethyst for glass, if we could obtain the latter only by such an exchange.—*Harper's Magazine for February.*

EXTRACTS AND REPLIES.

COWS EATING UP THE BARN! HEREFORDS AND DURHAMS.

My cows will eat pieces of wood and tear shingles off the walls of my barn when in the yard. They seem healthy and are in good condition. What is the cause, and what is the cure?

Do you consider Herefords superior to Durhams for the general keep or feed of New England farmers? I do not see much in the FARMER as to their quality or where most kept.

NEW SUBSCRIBER.

York County, Me., Feb. 13, 1871.

REMARKS.—We must refer you to some remarks in our last paper on "Why do Cattle Eat Boards?" for our reply to your first question.

As to the second question, our first remark is that there is a sort of *fashion* about the different kinds of stock. Each kind has its admirers, and it would be difficult to convince one that there is anything better than his own. According to some who have claimed large experience, the Hereford cow has little reputation as a milker. The milk is rich, but too little of it,—not much more than to rear her calf in good condition. As a working ox the Hereford is the peer of any other, and superior to most, according to Mr. L. F. Allen, in his American Cattle Book. As a beef animal the Hereford is superior. They feed kindly, are thrifty in growth, mature early—at three and four years old—and prove well on the butcher's block. And we have heard experienced Brighton butchers say that crosses of the Hereford afforded a larger pro-

portion of the choice parts of beef than he found in any other animals, pure blood or grade.

Short-horn cows (Durhams) are considered excellent milkers. The same authority quoted above says, that the *inherent* quality of abundant milking exists in the short-horns, no intelligent breeder of them need doubt. He says:—Some breeders contend that the thoroughbred short-horn ox is as good a worker as any other; but the weight of evidence does not confirm the assertion; still, they do work, and that quite tolerably, but they have neither the wind, speed, or bottom of the lighter and more active breeds.

As a beef animal it can scarcely be surpassed. It is held that, as a flesh-producing animal, in early maturity, weight of meat, ripeness of points, and giving the most flesh in the best places, the great merit of the short-horn is found. Every part is wonderfully filled. Choice flesh is put on in places where the common cattle fail to give it, and making the animal valuable all over, with no more offal than in a creature of a third less size of an inferior breed. There are comparatively few Herefords in New England, while there are many short-horns in every part of it.

There is probably more Hereford blood in the stock of Maine than in that of any other Eastern State, and we shall be glad to publish the result of the experience of the breeders there, as a fuller reply to your question.

Hall C. Burleigh, of Fairfield, in your State, breeds the Herefords.

MASSACHUSETTS' PERCHERONS.

Some eight years ago, I think, the State of Massachusetts imported two stock horses from the coast of France, called the "Percheron Stock." As much was said at the time as to the great merits of said stock for "all work," I would like to know how said stock has proved with you?

Kennebec Co., Me., Feb. 14, 1871. L. E. G.

REMARKS.—You allude we presume to the importation, in 1864, by the Massachusetts Society for Promoting Agriculture, of two stallions and three mares of the Percheron breed. Though, as you remark, "much was said at the time as to the great merit of this stock," we believe the annual sales of the stock held by the Society, at their stables, on the Bussey Farm in Roxbury, show a steady and of late a rapid increase in the popularity of this stock. Last year there was a larger attendance and we believe much higher prices were obtained, than ever before. The following are the sales of last year:—

Stallion Orleans, 10 years old, imported in 1864 by the Society, for $700, to A. H. Seabury, of New Bedford; stallion Napoleon, 5 years old, for $1000, to W. A. Woodsworth, of Boston; imported mare Empress, 10 years old, in foal to Napoleon, for $630, to Francis Dame, of Boston; a three-year-old filly, from Empress by Orleans, for $450, to the same; a two-year-old filly, out of Empress by Conqueror, for $380, to the Society; the mare Sultana, in foal to Orleans, for $110, to J. H. Stone, of Boston; a yearling filly, out of Sultana by Napoleon, for $360, to S. Boyd, of Boston, and a gray mare by Conquerer, owned by Mr. T. J. Coolidge, for $500 to Dr. Burnett.

The "Conqueror" here mentioned was one of the stallions originally imported, "Orleans" being the other. The last we heard of Conqueror was in Skowhegan, Maine, having been sold some three years ago. One of his colts was sold about two years ago for $1400, when two years and nine months old, at which time he weighed 1510 pounds.

Having thus answered your inquiry as well as we can, will you inform us how Conqueror's stock is proving with you in Maine?

DRYING OFF COWS.

I have a five-year-old cow that last year I milked till within three weeks of her calving, when finding that the milk was not good, I quit milking. Now her time will be out in about four weeks. I have milked once a day recently and she gives two quarts a day or more now. I know of other similar cases. What can we do to dry her off? H. M.

Westfield, Vt., Feb. 20, 1871.

REMARKS.—By milking less frequently and not quite clean, and by avoiding special milk producing food, there is seldom much trouble in drying off cows. Your cow was milked last year within three weeks of calving, and we think she will be likely to give you little trouble after about that time this year, as this is very much a matter of habit. Still as the milking qualities of our cows are largely artificial they must be watched and treated according to circumstances. Sometimes it is advisable if not absolutely necessary to relieve the distended udder by milking a cow or heifer before calving. In their natural state cows give comparatively little milk. We understand this is the case with Texan cows, and that owners of large herds there buy northern butter for their families, and probably farmers there have no trouble in drying off cows.

BEST FEED FOR CATTLE.

Seeing an article in the NEW ENGLAND FARMER of January 14, taken from the *Germantown Telegraph*, I beg to give my experience in feeding milking cows, which process may somewhat differ from the modes of some of the readers of the FARMER.

Every year I grow oats on good rich land exclusively for milking cows and yearling calves. I cut the oats green as soon as in the dough. I sow rather thicker than if for thrashing. I let them lie on the ground for a few hours to wilt, and then turn them with a rake. In fine hot, dry weather they will be in good condition to stack or put in the loft in two days. I work them similar to hay, only I don't scatter out the swath, lest the more mature oats be shelled out.

To my milking cows I feed out this fodder every day, with corn stalks, cut while the stalk is part green. I also give each cow daily, a bucketful of boiled pumpkins mixed with wheaten bran, raw pumpkins, marigolds, white stone turnips or Sweeds. I tie up all my cows, working oxen, yearlings and calves, before sun down, in a good warm, comfortable stable, with hay loft over. I allow each cow four feet, and bed all same as horses. I tie up calves so as when older there is no trouble to teach them.

My mode of tying up is to fix a young oak pole fast to the floor, and secure firmly to the joist over head. On the pole I have a ring that plays up and

down easily as the cow moves her head, or gets up or lies down. My cows milk well, and look well, and are in good order for the butcher. I am quite satisfied that the oat feed is better for milking cows than hay. Sometimes I change their feed—give more bran and boiled pumpkins and less roots; and then less of the former and more of the latter. I boil the pumpkins fresh every day, and *scald* the bran *always*. I salt the cattle regularly and turn them out every day if not too stormy. I grew upwards of thirty tons of pumpkins, a part of which I stowed away in a cellar where no frost could reach them, the balance I put in an old wheat stack, by making a cavity in the centre, leaving about four feet on the outside. After filling the cavity, put poles across and covered well with straw, leaving at one end a hole large enough to roll out the pumpkins, and stopping it up each time. None have been frozen at all. I am still feeding them, and find a few rotten, but the others are as hard and firm as when first put in.

In the fall I gave my cows ox cabbages,—grown from seed I imported direct from England. Cows will milk better on cabbage than on any other green food. In very cold days I give milking cows a few nubbins of corn each; but they generally prefer pumpkins raw to oats, corn fodder or anything else. I always milk my cows up to the day of calving if I can get any milk, and I don't see that it has injured them a bit. I have now the finest six-month calf in all this neighborhood, from a young Durham and native cow, and she was milked up to within twelve hours of her calving.

JOHN WHATMORE.

Bridgnorth Farm, Ill., Feb., 1871.

RABBIT BREEDING.

You will oblige a constant reader of your valuable paper very much, if you will publish in your next issue, something of an account of how rabbit breeding is carried on in London, Canada, an item concerning which you published in your paper of February 18.

Please tell me first, what sort of a warren is required, whether wooded or not,—soil hard or soft? Next what kind of rabbits are raised, whether "fancy stock" or common rabbits, for an article of food, and lastly where is there a market found for their consumption? R. C.

Milford, Mass., Feb. 8, 1871.

REMARKS.—We are unable to furnish the desired information. We copied the statement from some other paper, and perhaps by publishing our correspondent's inquiries, some other paper or person will respond. We have somewhere seen the statement that three years after some Englishman put thirteen rabbits on his run in Australia, they had multiplied to such an extent that the destruction of 100,000 at a cost of $35,000 did not appear to thin out the pests. How will this rabbit story balance the other one?

BOTTLING CIDER.

In reply to your correspondent who asks how to preserve cider by bottling, I will say I think the best way is to leach or filter the cider through sand, after it has worked and before it has soured. Put no alcohol or other substances with it. Be sure that whatever casks, barrels or vessels you put it in, are perfectly clean and sweet. After it is leached or filtered, put it in barrels or casks filled, leaving no room for air; bung them tight and keep it where it won't freeze till February or March, then put it into champagne bottles filled, drive the corks and wire them. It should be done in a cellar or room that is comfortable to work in. The best cider is late made, or made when it is as cold as can be and not freeze.

Prepared in this way, you may keep it for years, and at any time you may pull the cork, if it don't fly when the wire is loosened, and in a short time you will have pure cider vinegar, if it is not drank. The cider should be kept from air and heat to prevent it from souring.

It is not every sand bank that will answer for filtering cider. The sand must be pure, and not impregnated with any deleterious ingredient, as the cider will take it up. H. C.

Woodville, Mass., Feb. 21, 1871.

REMARKS.—Since receiving the foregoing valuable communication, we have had the pleasure of meeting the writer and of testing cider prepared and bottled as directed. Without claiming to be an expert in such matters, we can say that it was excellent. He also showed us some of his vinegar. It was clear and sharp.

CULTURE OF THE OPIUM POPPY.—EVERLASTING FLOWERS, &C.

Will you be kind enough to print an article concerning the culture of the opium poppy, and the right way of gathering or manufacturing the opium for market?

Would there be any opportunity to sell or dispose of everlasting flowers and ornamental grasses? They could be shipped anywhere, and the grasses dyed any color. We have raised very fine varieties, and I see that florists offer them at high rates. Please print soon, as we would like to order some seeds. E. N. S.

Vermont, Feb., 1871.

REMARKS.—Opium is obtained by making incisions into the seed-vessels of the poppy-plant when they are nearly ripe, allowing the milky juice which exudes to thicken upon them for twenty-four hours, then scraping it off. The incisions are made downwards, through the outer skin only.

Allow us to suggest, that if you will carefully read De Quincey's "*Confessions of an English Opium Eater*," you will never raise a poppy for any other purpose than as an ornamental flower in the garden.

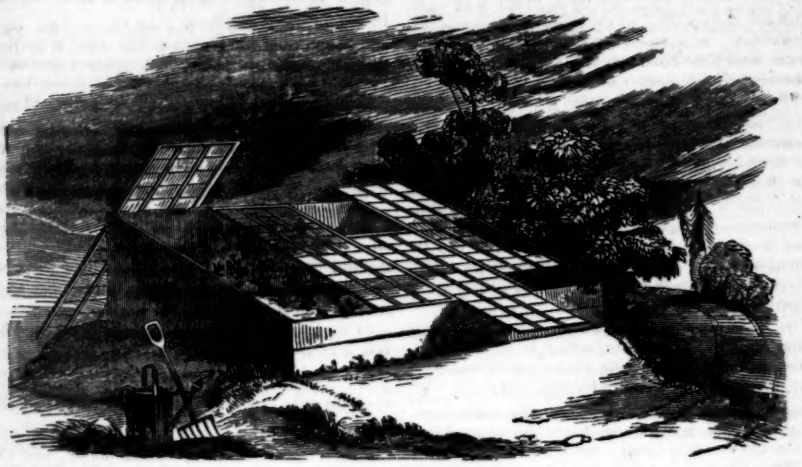
We have no doubt you may find a demand in Boston for all the ornamental grasses you have to spare, if skilfully arranged in bright colors.

HOW TO PREVENT HENS FROM SITTING.

In an essay on "Poultry," in the NEW ENGLAND FARMER of November 26, it was stated that hens inclined to sit could be broken up in two days. Can any one of your correspondents inform me through the columns of your interesting paper how this is done? A SUBSCRIBER.

Westfield, Mass., 1871.

REMARKS.—To prevent hens from sitting when you do not wish them to, watch them carefully, and at the *first* indication of sitting shut them up by themselves, where they cannot get upon a nest. At any rate, they must not be allowed to remain on a nest over night. This is Mr. Brown's practice, who wrote the essay alluded to, and that of many other good poultry raisers in his neighborhood and seems to be a successful one.



HOT BED.

For the New England Farmer.

For the benefit of new readers I will repeat directions given some years since for the construction of the hot-bed. The frames should be made of good one and one-half inch stuff, with iron loops as tenons, on the side pieces, to pass through mortices in the end pieces, at the corners; and be fastened by inserting wooden keys through the loops. Let the front side of frame be one foot high, and the rear side two feet, with ends sloping to match, and rabbeted for the sash to slide on, over the front side, shutting against the back level with its top. Make it of any desirable length to receive any number of sash, three feet wide, and the frame as wide as you desire the bed, calculating from the size of glass used in the sash. Cross bars will be needed for the sash to rest and slide on, and cleats at the end, a few inches above the level of the bed, for a plank to rest on for convenience in weeding, &c. Good firm well glazed sash, for covering is needed. The frame is made with close, or battened joints, so as to exclude all cold.

A somewhat protected location is selected for the bed, well exposed to the sun during the day. Dig a trench running east and west, eighteen or twenty-four inches deep, a foot longer and wider than your frame; fill this to the depth of two feet with fermenting manure, mixing in, as you build it up, leaves to insure the prolonged heating. Let this bed of heating material be evenly laid up to insure eveness in settling, and compact it with the back of the fork. On this set your frame, driving stakes at the corners to hold in place, and bank up around the outside with soil; put on your sash and let it heat a day or two, and then fill in six inches of your prepared sifted soil, spreading it evenly over the manure, inside the frame; replace the sash and let it heat till the heat begins to subside and has fallen to about 85°, when you may sow your seeds in rows from front to rear. I should have said above the frame should face the south. Sowing the seed before the heat has reached its height and begun to subside is often the reason of seed failing to come in the hot-bed.

The care of a hot-bed is only learned by experience. Often a few moments neglect in mid-day suffices to destroy all previous care and fine prospects, or a cold night will kill the young plants unless the bed is protected. With proper care they are excellent to forward many plants that may not be had in any other way so easily. W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

TOP DRESSING vs. PLOUGHING UNDER.--No. 2.

It is a fact, undisputed so far as I know by scientific or practical men, that lands worn out by long continued cultivation and light manuring, may be planted with forest trees; or a spontaneous growth of wood may be allowed to overspread them, and they will improve in fertility; at first slowly, but more rapidly as the trees advance to maturity and the annual crop of leaves becomes greater. The valleys and depressions that always abound in every considerable tract, will receive more than their portion of the yearly crop and improve more rapidly than the elevations; but every part will be found advancing in richness and will again become "virgin soil."

Now, if, according to the theory of some farmers whose opinions upon matters of agriculture are entitled to consideration, manures, fertilizers, or whatever we choose to call that with which we feed the soil and prepare it for the crop, pass into the atmosphere and are lost rapidly when left upon the surface, how is it that such lands regain their primitive richness by the decomposition of the annual fall of leaves? According to their theory, as soon as decomposition has taken place, and the rains have dissolved the soluble particles thus produced, they should pass off by evaporation and be forever lost. The land, should, therefore, not only grow no richer, but annually poorer by the constant extraction of nutritive matter from the soil by the growing trees. The inevitable result would be decay and final death of all forests, whether of the secondary kind under consideration or the primary, should such a law be enacted; nay, all vegetable life not under the immediate, constant care of man would share the same fate. Of course such a theory must be fallacious.

Thus in the natural renovation of soils exhausted through ages of improvident husbandry we see a wise provision of the Creator by which they may again be made to blossom as the rose, and yield their increase to generations of men far down in the future. It must ever be impossible to know how many times this alternation has been repeated in the old world since man became a cultivator of the soil, voluntarily by the abandonment of worn out lands, or forcibly by some great epidemic or natural convulsion that destroyed whole populations. Each successive race of cultivators found "new land" in all its vigor, though it might have been the twentieth time such land had been peopled and cultivated. Already has such alternation begun in New England in small districts, upon hills first settled and now worn out by long continued cultivation. The inhabitants are gone; the land is abandoned for the purposes of cultivation and is being overrun by trees and brush.

If, then, these views be correct, it would seem that no alarm need be felt that manures left upon the surface can be lost by evaporation; nor that nature, always doing her work in the best manner, has here given a great example that is not worthy of imitation.

The views herein set forth have guided me in the cultivation of my small tract for several years; and under the new regime my lands have perceptibly improved, and my crops proportionally increased. My method is this: Next spring I shall plough up a piece of greensward, manure the surface, harrow thoroughly and plant. The next spring the same process will be repeated. The third year the land will be ploughed, manured very liberally and harrowed thoroughly; then sowed with oats or barley, and grass seed and harrowed, the inequalities about the margin and other places being levelled with the hoe. I have little trouble by lodging when my oats are sowed early, and generally have large yields. In 1869 they stood from four to five feet high and well filled; stalks could be pulled up five and one-half feet long. Last year they were nearly as heavy. They are the common oat.

Grass is a very important crop in New England and throughout the North. If our object be grass, and we attempt to bring our farms to a high, productive capacity by ploughing manure under, we shall be disappointed. Before reaching the last acre of arable land, the first is crying for help and requires immediate attention. If surface manuring is adopted and it is desirable to plough largely, a better result will follow, two loads being equal to three ploughed under.

In top dressing ploughed fields it is desirable that manures be well rotted, but not indispensable. I have used green stable manure in seeding down with good results. C.

Wilmington, Vt., 1871.

For the New England Farmer.

RAISING TOMATO PLANTS.

I do not propose to teach old professional gardeners anything about the management of hot-beds, or the raising and selling of plants. They have large propagating houses, and heated water-pipes, where the work can go on through all kinds of weather; but from which large sales must be made in order to pay for fuel and interest on buildings, fixtures, &c. There are farmer's sons living near villages, all over New England, that might, after a little experience, obtain a better income from a few rods of ground near the farm buildings, than their fathers get from some of their *acres*.

Tomatoes are used now in almost every family. Many people set a dozen plants annually who have not room for much else in their small gardens. In order to have a full crop from the plants, they must be started under cover before the weather out-side is warm enough to grow them. Many farmers' wives start a few in some south window of the kitchen, and have very good plants. Many fail, however, by planting too early in the winter, by putting in too many seeds for the room they have, and by not transplanting at the proper time.

I want my frames made and the holes dug the fall previous, and a few loads of suitable soil placed where I can use it about the last week in March. I have seldom planted the seeds before the first of April, and never would for my own use. But village gardeners are apt to be in a great hurry in the spring to get their gardens under way.

By planting a few seeds for very early plants, one often has a chance to sell his village customers two lots of plants in a season. I know of men who always buy the first plants they see for sale. They are the ones who generally buy twice. It is seldom safe to put

the plants out till after the 25th of May, and the first week in June is preferred by many who get their fruit as early as those who set a fortnight earlier.

Horse manure is the main thing to depend upon for heat. It should be saved separately from other manure and not be allowed to heat very much during the winter. A few days before wanted it must be forked over and thrown up in a high pile so as to induce fermentation. It may be necessary to work it over two or three times. When well warmed up it may be put in the beds.

Many beginners fail by not having the manure deep enough in the beds. If for the earliest planting, I want it at least twenty inches deep after it is well settled and gently trodden down. Others fail by having their beds where water can get in and cool the manure. If the manure is put below the surface the soil should be well drained. After the manure is deep enough and well levelled off, there should be from four to six inches of good soil laid over it, in which to grow the plants. The deeper this soil can be and not smother the heat in the manure below, the less care will be needed in watering the plants. I used to have bad luck with my plants by using a poor quality of soil in which to grow them. If it is very loamy the plants are apt to "damp off" after being watered, especially if the weather is such as to require the beds to be closed.

I now use a compost made of the top soil from the last years' beds, with enough of the old manure from the bottom to make the soil quite rich, and add clear sand enough to make the whole light and porous, so that it can never bake in the sun nor hold enough water to rot the plants. I think I use about one-third sand, one-third old soil of last year and one-third old manure from last year's beds, which make the new soil about half manure and half sand. In such a soil plants grow right along. If one wants to sell plants that he can warrant true to name he should save his own seed.

I buy some new kind nearly every year, but am often disappointed. The Lester's Perfected and the Tilden are about good enough. The main thing is to have them of good size, smooth and tolerably early. The books say let the bed remain a few days to warm up or to let the greatest heat pass off before sowing the seed. I generally sow the same day the bed is made.

When the young plants begin to appear above ground is a critical time with them. An hour of hot sun on a closed bed will often kill the whole. They must be watched pretty closely for a few days, and the sashes will sometimes need moving several times in a day. This is work that can only be learned by experience; but after a while one can tell at a glance if the plants are needing protection or air.

I find it less trouble, and get better plants to make a small seed bed and start them very thickly. Then as soon as they are well up and growing, begin to make a much larger bed with a less depth of manure, and when the top soil of this gets well warmed up, and the plants have on their second leaves, I transplant them all into the new bed, setting them about one-half under ground. Then shade a day or two, but am careful not to water much till the plants commence to grow. After the plants get to be four inches high, and too thick to grow strong, I again transplant into a still larger bed, and as the season has advanced less heating manure will be needed, and almost any sort of old sash will answer.

I think I get very much better plants by transplanting them two or more times, setting their stems about two inches under the soil every time. I take up the plants from the first bed, sort them over, throw out all weeds, put their roots in a pan of water and let them stand till they take up water enough to make them firm and crisp; then, beginning at one end of the new bed, I make with my hand a little trench across it, lay the plants in two or three inches apart and an inch or two deeper than they were before, about as fast as one would drop peas, and with one stroke of the hand the dirt can be moved over the roots. It should be gently pressed down, then go on as before and finish the bed. After shading a couple of days at most, I water the bed toward evening and the next day give air, and find my plants growing and looking nearly as well as before transplanting. All of the stem that is put under the ground will throw out new roots, making the plants many times stronger than if they had stood in the bed where they were planted.

After they have been transplanted two or three times in this way they may be taken up and after wetting the roots planted out where they are to stand, and every one warranted not only to live but to grow, even if set in the middle of a hot day; or they may be laid into boxes as thickly as they can be packed and their roots covered with dirt, well watered and carried to the village for sale, in a hot sun, without scarcely wilting.

If plants are to be sold early, before it is time to put them out, it is well to put them in boxes of one or two dozens at the second transplanting. After the boxes are filled they are placed on a heap of warm manure for a few days to let their roots get warm, after which they will do well in cold frames. If put in boxes, the boxes must be moved away from each other as the plants grow. A good plant must have room to grow.

I do not want anything better for a tomato plant than one six inches high, broad and stout, with from six to ten times its natural supply of roots, and I do not care for it till the first of June. Then I would set it in a good shovelful of old well rotted manure

placed on a high, dry, gravelly or sandy knoll.

If the little flea beetles attack the plants cover with ashes, plaster of Paris or air slacked lime. Too much ashes or lime may injure the leaves; if the beetles stay, they surely will. If the cut worms gnaw off one plant a new one must be set in its place.

I have not tried to give the whole process of making or managing a hot bed, but to give my own mode where it differs from that of others, and to show wherein beginners are most apt to fail. A. W. CHEEVER.

Sheldonville, Mass., Feb. 29, 1871.

For the New England Farmer.

IMPORTANCE OF DRAINING.

The practice of draining wet lands and swamps (where a superabundance of water lies on the surface or near the surface,) does not receive the attention that its importance demands in this country. I venture to say there are no improvements that can be made on many farms in New England and elsewhere, that will add so much to the productive capacity of the land and revenue to its owner as underdraining, which has a great advantage over open drains, when outlets for the drains can be secured to advantage; for in this case large fields can be relieved of surface water without the obstruction of an open drain to the plough, cart or wagon. On farms where an abundance of stones are convenient to the land to be drained, and which the farmer wishes to rid his lands of, they may be used to advantage, but in the absence of stone, tiles are the cheapest and make the most durable drains. In this locality the manufacturers sell them for twenty dollars per thousand for two-inch, which is a trifle more than thirty cents per rod, delivered at the manufactory, and for three-inch tile the price is twenty-seven dollars per thousand. Very little beside two and three inch tile are used for common draining, the three-inch for the main, and two-inch for the laterals. Mr. John Johnston, the grand old Scotch farmer of New York, well knew what his tile would do, when his neighbors asked him what he was laying his crockery in the ground for. He knew his land would be improved from one to three hundred per cent. I once heard a traveller, (a professional gentleman of extensive observation) say that in passing through England on all the great thoroughfares he saw large piles of tile for underdraining the soil.

England, Scotland and Ireland are far in advance of us in the art of draining, but I think the day is not far distant when the wet lands of our farms will be thoroughly drained, so as to produce an abundance of grass and grain.

Mr. Editor, I give you a little experience I had some years since in draining. In the year 1850 I ploughed a lot of clay loam soil with a heavy clay subsoil. There were about five acres, and it was ploughed about the 12th of May, for corn. It rained almost daily for two or three weeks, which caused a good stream of water to run through a low part of the lot, consisting of about one acre. It was so wet that I could not plant it till the seventh day of June. The corn was very light on the low ground. The next year (1851) it was sowed with oats, and seeded with timothy and clover, and on this acre of said land the crop was almost a total failure. That same year, after the oats were harvested, a ditch was dug from two and a half to three feet deep through the centre of the low land, it being about sixty-three rods long, three inch tile was laid about fifteen rods from the outlet, and the remaining distance was laid with two inch tile. The following year it was mowed, and the crop on that underdrained was much the heaviest of the field, yielding two or three tons per acre of good sweet hay. The drain has worked admirably to this day. The surface water never standing on it more than twelve to fifteen hours after a heavy rain. I think the increase of crops more than paid the expense in the two succeeding years. The past Autumn was very favorable for draining, and I improved it by draining some swamp land with tile, except some of it which was so mucky that I used round stone from the Deerfield River, the result of which I cannot speak of now.

I would say to all farmers who are troubled with a superabundance of water, underdrain, by all means, if you can find a good outlet for the water, and you will not be disappointed, if you do the work thoroughly.

JAMES CHILDS.

Deerfield, Mass., 1871.

UTILIZING BONES.

If a farmer has collected a pile of bones which he desires to fit for plant food, he can accomplish the end in two or three different ways: 1st, by dissolving them in sulphuric acid in the raw condition; 2d, by dissolving after burning to whiteness; 3d, by dissolving them in connection with caustic lye from ashes and soda.

Bones cannot be dissolved in acid economically, unless they are reduced to a fine powder. Pounding them into small fragments will not do, as but a part of the bone substance can be acted upon by the acid when fragments are submitted to its action. An insoluble coating of sulphate of lime forms around each fragment after the first action of the acid, and this arrests further decomposition. As a matter of experiment, we have submitted powdered bones to the action of strong and dilute acid, for six months, and the solution at the end of that time was far from being complete.

Raw bones are very difficult to grind in any mill accessible to farmers, and therefore it will be best, if it is desired to make "superphosphate," to construct a kiln of stones,

throw into it the bones, along with sufficient wood to kindle them; and by igniting the wood, the bones will readily take fire and burn to whiteness. In this state they are brittle, and can be ground in a bark, plaster or grist-mill. The organic matter, or the gelatine, is destroyed in this process, and the bones lose about twenty-seven per cent. in weight.

To convert the bone ash into superphosphate, procure two or three good sound molasses casks, divide them in the middle with a saw, and into each half put two hundred pounds of the powder moistened with a couple of buckets of water. A common hoe may be used to turn over and mix the powder and water, and also it may be used to stir up the mass after the acid is added. Oil of vitriol or sulphuric acid should be purchased in carboys, and the common commercial strength is suitable, that of specific gravity 1.70, or 140° Twaddell. A stone pitcher holding a gallon is a suitable vessel in which to receive and measure the acid; and in turning it out of the carboy, do not be nervous or act in a hurry. Turn it out gently, and be careful that it does not spatter upon the face or clothing. Place the carboy upon a low box, remove the stopper, and, tipping the vessel, allow a small, smooth stream to fall into the pitcher. The two hundred pounds of bone powder will require the entire contents of the carboy of acid; in fact, a little more is needed to produce perfect decomposition. A carboy holds about one hundred and fifty pounds, and one hundred and seventy-five will be appropriated by the bone if the action is perfect and entire. The contents of a carboy, however, have answered in our experience. The acid must be added gradually, one gallon at a time, stirring with a hoe, and waiting for the effervescence to subside before more is added. In a few hours the action will be over, and a liquid resembling water will be seen floating upon the top of the powder. This liquid is excessively sour, being free phosphoric acid, holding a little soluble lime in combination. Many who have tasted of this liquid have supposed that it was uncombined oil of vitriol, and fearing that it would burn up their crops, have been afraid to use the mixture.

To dry this pasty mass so that it can be pulverized, is the most troublesome and protracted part of the labor. Superphosphate should be made by the farmer in the summer after hoeing, when the weather is warm. He should provide twenty or thirty rough, shallow boxes, in which the moist mass can be placed and put in the sun to dry. They can be taken under cover in wet weather. Before drying, a barrel of sifted loam should be mixed with the bone paste, and thoroughly worked into it. This greatly facilitates the drying process. When the mass is dry it can be pounded fine with a mallet, or it can be ground in any kind of a mill. The powder thus manufactured is most excellent, and when further diluted with two more barrels of dry soil or loam, is equal to the best superphosphate found in the market. A handful put in each hill of corn or potatoes at time of planting will give fine results. This superphosphate must not be mixed with lime, or ashes, as from their action it will undergo decomposition, and new salts will be formed. It may be mixed up with dry fish pomace, and form a very perfect and excellent fertilizer for all kinds of crops.

The manipulation described above is adapted to the preparation of superphosphate from ground raw bones. The only variation is in the amount of acid needed. For raw bone powder, only half as much acid should be used, or six gallons for a barrel of bone dust. The processes for its manufacture are the same.

Bones may be dissolved in moistened wood ashes, if care is taken to bring them completely under the action of the caustic lye. To accomplish this, it is necessary to break the bones into fragments and pack them in a tight, shallow box with an equal weight of good, sound wood ashes. Mix with the ashes, before packing, twenty-five pounds of slaked lime and twelve pounds of powdered sal soda (carbonate of soda) to every one hundred pounds of the ashes. The box in which to conduct that process may be made of rough boards, but it must be tight, and it should not be over eighteen inches deep. It may be as broad as is necessary. The bones should be packed in layers; first upon the bottom a layer of ashes, then a layer of bones, and so alternately until the box is filled. About twenty gallons of water must be poured upon the heap (that is, for every one hundred pounds of bones) to saturate the mass, but more may be added from time to time to maintain permanent moisture. In three, four, or six weeks, the bones will be broken down completely, and the whole may be beaten up together, after adding an equal bulk of good sifted soil. This compost is of the highest efficacy, as it embraces quite all the great essentials of plant food, namely, potash, soda, lime, phosphoric acid, and the nitrogenous element. This is a very convenient way for farmers who have ashes to dispose of their store of bones. If plenty of ashes can be procured, it will facilitate the decomposition of the bones to employ twice as much ashes as there are bones; the solution will be effected sooner, and more perfectly.

If powdered bones are employed, a barrel of the powder may be mixed with a barrel of good ashes, and the whole turned into the half of a molasses cask, moistened with two bucketfuls of water, and stirred up well with a hoe. In a week this will be ready for use, and it forms a most efficient and convenient fertilizer for all the cereal crops. We think it does more for corn, in giving plump, full kernels, than any concentrated fertilizer we have employed. A handful is enough for a hill, put in at time of planting. Before dropping the seed, a little earth should be kicked

over the powder, so that it may not come in direct contact with it.

Our statements are based on actual experience, and experince probably more extensive than has fallen to the lot of most others.—*Dr. Nichols, in Journal of Chemistry.*

OFFICERS OF AG'L SOCIETIES.

NEW YORK STATE AG'L SOCIETY.—*Pres.*, Richard Church of Allegany; *Vice Pres.*, First District, Thos. H. Faile, Jr., of New York; 2d, Edwin Thorne of Duchess; 3d, Jurian Winne of Albany; 4th, Frank D. Curtis of Saratoga; 5th, James Geddes of Onondaga; 6th, Wm. M. Ely of Broome; 7th, Benjamin F. Angel of Livingston; 8th, Horace S. Huntley of Cattaraugus; *Cor. Sec.*, Thomas L. Harrison of St. Lawrence; *Rec. Sec.*, W. H. Bogart of Cayuga; *Treas.*, Luther H. Tucker of Albany; *Ex. Com.*, Adin Thayer, Jr., of Rensselaer; Milo Ingalsbe of Washington; Fordham Morris of Westchester; Robert J. Swan of Seneca; Harris Lewis of Herkimer; Geo. H. Brown of Duchess; Joseph Julian of Chenango; John L. Cole of Wayne.

BRISTOL CLUB, ME.—*Pres.*, Thomas Herbert; *Sec.*, Dennis R. Hawley.

CORNISH, N. H., FARMERS' AND MECHANICS CLUB.—*Pres.*, Capt. Seth Cole; *Vice Pres.*, Chas. E. Jackson, Chas. F. Higgins; *Sec.*, Henry M. Day; *Treas.*, J. M. Davidson; *Ex. Com.*, Lemuel Martindale, C. P. Jonny, L. H. Dow.

CUMBERLAND COUNTY, ME.—*Pres.*, Seth Scammon of Scarboro; *Sec.*, Samuel Dingley of Gorham.

REDUCING BONES.—At a recent farmers' meeting at Bedford, N. H., Mr. S. C. Pattee of Warner, said that he gathers all the bones he can, and saves and buys ashes, and that he reduces bones by filling his arch-kettle or boiler with them, pours in ashes and then water, boils an hour or so, when the bones will generally show signs of dissolution. They can be readily reduced in this way, and in case they resist at first, let them lie in moist ashes and a few days will effect the work.

EXTRACTS AND REPLIES.

BUG-PROOF PEAS.

Mr. President of the great New England Farmers' Club :—As it is time for farmers to look up their seed grain, and have it ready to sow the first favorable time in the spring, I would like to inquire of any member present if there is a kind of *pea* so large, or with pods so thick, as to prevent the pea bug depositing one of its kind in every infantile pea? If so, will he speak up so loud that all of us can hear? The pea is a highly prized crop on our heavy clay soil, being much surer and easier raised than corn; but the ravages of the bug prevents our raising peas to the extent we should otherwise do. Is there other food the bug would live on, if the pea was not sown? If not, how long would we have to quit raising the pea, to *run out* the bugs?

BORERS.

Another question, Mr. President, Are the locust tree borer and the apple tree borer the same animal?

ITCHING CATTLE.

The gentleman from New Hampshire inquired at the session of the 4th inst., about his cattle itching. If the hair is bright and the animals are looking well, the trouble probably is *thrift;* remedy, lessen the feed. Thriving cattle, or those "doing well," as we say, lick themselves a great deal. My noble friend has no occasion, I conclude, to ask what will kill lice. I anticipate he has found out that a little more meal to increase the *grease* on the inside is better than *grease* on the outside. My remedy for lice is *not to raise them*, and then I have no use for the patent fumigators, &c.

WHY THE BUTTER DON'T COME.

Some of our members are bothered because the cream "won't come." Well, if it is bound to not "come," *sell the cow* and buy one that gives cream that will "come." A great deal of this butter difficulty is not with the *women* who make the butter, but with the *men* who furnish poor cows. I see my time is up, Mr. President. T. B.

Addison County, Vt., Feb. 18, 1871.

REMARKS.—The questions of the gentleman last up are now in order for the action of the "Club." The Chair would remark in relation to the subject of borers,—though he fears that by his much speaking he may be classed among the "bores" himself,—that three different kinds of worms that prey upon the locust are mentioned by Mr. Harris. One is a reddish caterpillar that operates only in the pith of branches and very young trees, causing a swelling of the twig, which becomes brittle and is easily broken off where the insect works. This is called *Robina pseudacacia.* The second is a grub, which remains in the tree one year and then turns to a butterfly named *Clytus pictus*, or painted Clytus. The third is a larger wood-eater and is supposed to remain in the tree three years, and is named *Xyleutes Robinæ.*

The apple tree borer is a different thing from either of these, and is the larvæ of a beetle called *Saperda bivittata.*

We often talk of *the* borer, *the* cutworm, *the* potato bug, &c. But of each class there is a large variety. "Borer" and "cut worm," are words we apply to a particular stage in the life of butterflies and beetles. Mr. Harris says that "nearly one hundred different species of borers have been found in Massachusetts, and probably many more remain to be discovered;" that is, these borers when they assume their perfect state are so many different kinds of butterflies, beetles, &c., though when in the borer or larva state they have a great resemblance.

GRASS SEED—WHY DON'T DEALERS ADVERTISE IT?

I have nine acres I wish to seed to grass the coming spring, for mowing; the soil is a gravelly loam. What varieties of seed shall I sow and how much per acre? The common practice here is to sow clover and herdsgrass, not to exceed eight pounds each, per acre; but clover is apt to winter kill; and herdsgrass starts slowly after being cut, and is quite liable to be injured by drought. Now grass being our main dependence here in Vermont, can we not make some improvement in the manner of seeding our land?

Agricultural writers recommend from five to twelve varieties, and from twenty to forty-three pounds of seed per acre. Now as farmers in moderate circumstances who are growing wool at forty cents per pound, can hardly afford to make a journey to the "Hub" every winter to learn who keep all kinds of fresh grass seeds, &c., can you not, Mr. Editor, stir them up with a long pole and cause them to advertise their wares? The country is flooded every season with the catalogues of seeds-

men who make the raising of flower and vegetable seeds a specialty; in the last number of the FARMER I notice nine different advertisements of flower and vegetable seeds alone, without a single intimation where farmers can get a pound of fowl meadow, red top or orchard grass.

Cabot, Vt., Feb. 13, 1871. A. M. FOSTER.

REMARKS.—Most farmers find it important to sow some grain crop with grass seed in the spring, to prevent weeds getting possession of the land, if by drought, or any other cause, the grass seed should fail to come. Moist lands may be seeded to grass in August or September, and unless the soil becomes very dry, the seed will come readily and grow well.

The quantity of seed usually applied by good farmers in this region is one bushel of red top, and one peck of herds-grass seed per acre, and in the following spring, early in April, eight to twelve pounds of clover seed per acre. Some farmers sow only half a bushel of red top, and six quarts of herds-grass, but a long experience convinces us that it is poor economy to seed lightly.

Wheat is an excellent crop to "seed down" with. Barley is next. A heavy crop of oats shuts out the sun too much. The young grass is very tender, and when the oats are cut, if there is a hot sun and dry surface, the grass is frequently killed.

We hope your hint to dealers in grass seed will prompt them to send in their advertisements of grass seed immediately. They would, undoubtedly, find their account in so doing.

THE USE OF SALT.

In your issue of the 11th inst., in a communication under the head of preparing food for stock, mention is made of a certain physician, who has kept swine and horses with good success for many years without the use of salt. I have occasionally seen in the FARMER and other papers something similar to the above. Having had some experience in the disuse of salt, I wish to add my testimony to what has be n written on the subject.

For the last thirty years I have fed almost no salt at all to my cattle and horses, (not a quart in the whole time,) and have never had a sick animal, while my neighbors who have fed salt frequently to their cattle, have nearly or quite all lost more or less by disease. This fact shows to me, not merely that cattle and horses can do without salt without injury, but that they can do better without it than with it.

I would add that I have avoided the use of salt in my own diet for several years, and the result has been highly favorable to my health.

If the dietetic use of salt is an injury instead of a necessity, as many would have us believe, the best interests of humanity requires that it should be known. If the words of a distinguished physiologist are true, it is important that they should be known and heeded. He says, in closing his remarks on the dietetic use of salt:—

"From my own extended and careful observations, during the last eight years, I have been strongly pressed to the conclusion that the dietetic use of salt is largely concerned in the production of cancers and other glandulous diseases of the human system, and I am entirely certain that it exceedingly aggravates many chronic diseases, and have little doubt that it increases the liability of the body to diseases of every kind, that it is directly conducive to scrofulous, pulmonary and cutaneous affections, and disorders of the mucous membrane; in short, there is every reason to believe that it not only serves to predispose the human body to every form of disease, but also serves to aggravate every species of disease when actually induced, and that it serves to hasten premature old age by rendering the solids dry, rigid and inelastic."

D. BILLS.

Mendon, Mass., Feb., 15, 1871.

DOES IT PAY TO RAISE CORN?

I will give my experience the past season on about two and one-quarter acres of ground. The account stands thus:—

Cost of cultivating and harvesting . . .		$70 00
Barn yard manure		25 00
Phosphate applied in hill		16 00
		$111 00
Credit by 110 bushels corn	$110 00	
" 6 loads stalks	40 00	
		$150 00

Leaving a balance of $39, for the use of the land; or perhaps it should be $55, for I consider that the phosphate I used was worse than thrown away, in consequence of the drought. I placed it directly n contact with the corn when planting; and the result was I had to replant my field. I applied fifty loads of manure to the field, but consider that the corn crop is justly chargable to but one-half of the manure. It is doubtful if it should be charged with even this much, for I think it furnished very little food to the growing crop in consequence of the drought.

The result of my experience has led me to believe that it will pay to raise corn in this vicinity; but it is an open question with me whether a dairyman can afford to raise corn, or in fact, whether any Eastern farmer can. Some dairymen in our vicinity have abandoned it, and use their manure as a top dressing on their meadows. By so doing they have largely increased their yield of hay and at the same time improved their land, at a much less cost of labor. I should like some one who has tried the use of manure as a top dressing to give the result of their experience.

JAMES C. JOHNSON

Monroe, Conn., Feb. 21, 1871.

HOW MANURE IS LOST.

Your correspondent "C.," Wilmington, Vt., has an article in the Monthly FARMER, January, 1871, page 55, in which he says some things that are correct and some things which I think are not correct.

After speaking of the opinion that obtained a few years ago as to the application of manure, and the change of opinion which he says has taken place on that subject, he asks the question, "When manure leaves the soil, does it go up or down?' I answer, it goes both ways. Manure is a great traveller, and its great thoroughfare is that thin transparent fluid which surrounds the earth.

Now to illustrate, suppose C.'s 100 pounds of sugar to be placed in a hot fire and burned, does the sugar then go up? Yes, except a small item of ashes. The rotting or decay of vegetable and animal substances is a slow process of burning. The principle in each case is the same and the result is the same. Hence we have instances where a substance passes from one state to the other, called spontaneous combustion.

All vegetable and animal substances when coming in contact with air and moisture in a warm climate are subject to decay. This process separates them into their elements. They become again incorporated either with earth, air or water. What goes into the air is for the general benefit of growing plants. What is retained in the soil becomes local, and of course benefits the individual.

Manures in passing into the air first become vapors or gaseous in form, instead of going up in a liquid form as your correspondent supposes. Liquid manure is taken up by the roots of plants. The greatest share of the nutriment which plants receive is derived from the air. Suppose a barn with a hundred tons of hay to be consumed by fire, where do the contents go? Or where does a forest, with its hundred tons per acre, go when burned? Such substances mostly go into the air. If they decay they go to the same *place*, but not in the same *time*.

Are these exceptions to C's general principles? If so, let me give another. I have raised fifty bushels of corn to the acre on sward land with a good coat of green manure turned under eight to ten inches deep, with a little swamp muck in the hill, with good crops on the same land following. My land is nearly level, and the soil is a mixture of lime, granite and slate stone. Does this land belong to C's cases of necessary evils?

The fact is, animal manures should be covered with soil or composted, the quicker the better after they are dropped. Pure earth is the best and most abundant absorbent in nature. JOEL HERSEY.

Williamstown, Vt., March, 1871.

OUR FANNIE JERSEY.

The brag on her "Molly Jersey" by Mrs. "S. B. S.," in the FARMER of February 18, has induced me to say that in the fall of 1868, I bought one full blood and one three-fourths Jersey heifers in Augusta, and took them home, only to be laughed at by all my neighbors who saw the little "scrubs." The grade had what we call a "wolf," and was killed. The other which I now have was two years old last June, and dropped her calf last October. She now gives about five quarts of milk a day. To-day we churned the cream from nine days' milk, after selling one quart of milk a day and using what a family of four persons required, and no pan set over thirty hours, generally only twenty-four hours. We obtained six pounds and seven ounces of butter, as weighed by our grocer. During the month of January we made twenty-four pounds and seven ounces of butter. I am now feeding her two quarts of corn meal, a pint of cotton seed meal and second quality of late cut hay, but for the past three weeks she had no cotton seed meal. The butter is made by a woman of no experience in dairying, and who follows directions found in the NEW ENGLAND FARMER. Now I would like to inquire,—

1. Are two quarts of corn meal and one pint of cotton seed meal per day heavy feed for a heifer in milk, provided she does not fatten on the feed?

2. Can more butter be obtained by churning milk, than by churning the cream that rises on the milk?

Mr. John Bussell of this town fatted a native cow that dressed 790 pounds. ZEN.

Springvale, Me., Feb. 18, 1871.

SOD ASHES.

About a year and a half ago, I cut a large drain nearly one hundred rods in length through a swale, somewhat cold and sour, bearing little or nothing but poor grass and moss. The sods, about seventy-five cart loads, were piled together in a long flat heap, five feet high, on dry land. While burning brush last fall, the fire communicated with this heap, and continued to burn for several weeks, until the entire mass became apparently a heap of ashes. I have allowed it to remain undisturbed, till the present time. Now, the question is, how can I turn this heap of ashes to the best account? What shall I mix with them in order that the usual farm crops and vegetables, may derive the greatest benefit? Shall I mix plaster or lime with the ashes, and if so, in what proportion? Is there any material that can be obtained at a reasonable price, that will add to their value?

I regard Dr. Nichols as high authority in these matters, and if he will give his opinion through the FARMER on this subject, I have no doubt he would confer a great favor on many others, as well as myself. J. R.

New York, Feb. 23, 1871.

FEEDING BEES.

I saw in the FARMER a piece on feeding bees in the fall. I think that a very poor time. It can be done much better in the dead of winter, even in the coldest weather. If fed in the fall there is always danger of setting them to robbing or drawing in your neighbors' bees.

I take a small berry box cover, fill it full of small gimlet holes, make it just small enough to follow the honey or syrup down, and so fitted that the bees cannot get into the feed. Then I heat a brick pretty hot, if the weather is very frosty, but not so as to burn them, cover it with several thicknesses of cloth of most any kind and put the brick and feed boxes where the honey boxes formerly were closing all up tight. I think the night is the best time. The warming process may have to be repeated several times, as when it gets cold they will all go back. I recommend feeding in the spring either with all maple or a part West India sugar. I think it helps them in getting out their broods. I hardly ever fail to feed my bees a little in the spring whether needed for their preservation or not and hardly ever fail of having some swarms. Last spring, however, I neglected to feed any of them, and though I had ten extra swarms, none of them swarmed at all. J. C. HILL.

East Saugus, Mass., Feb. 25, 1871.

WASHING BUTTER.

It is rather too late to reply to your correspondent "C. M. T.," Island Falls, Me., of June last, who inquires if it is best to wash butter when it comes hard, and can be worked without the use o f water. In summer and for present use, whether hard or soft, it is most essential to well wash the butter in one or two waters, then work in fine table salt, and keep drawing the water from it. After sitting in a cool place till hard make it up into prints. If it is to be crocked for winter use, I don't wash it; but work it over *well* with salt *three* different times, allowing six or eight hours to elapse between each working; then add one teaspoonful of well pulverized saltpetre and two teaspoonfuls of *white* sugar to every *six* pounds of butter, each to be well worked in. After salting to your taste press your butter *solid* into the crock. When full, spread a fine piece of cloth over the butter, and place about one-quarter of an inch thick of salt on the cloth; put a board on top of crock to keep out the air. It is not well to begin to crock before the end of August or beginning of September.

MRS. MARY WHATMORE.

Bridgnorth Farm, Dunleith, Ill., 1871.

CUTTING FEED FOR STOCK.

In the FARMER for Feb. 18, Mr. W. J. Pettee, in speaking on the subject of cutting food for stock, says, "I fail to see any good reason for cutting feed that an animal will consume economically, thoroughly masticate and well digest." If an animal *can* "consume economically, thoroughly masticate and well digest" long hay and stalks, then there is no need of cutting them,—but it can't. Hay is apt to be wasted. And as to corn stalks, the leaves are generally picked off and the buts left. Whereas if they are cut up, the whole goes down together.

Long feed is not masticated thoroughly. Cattle are apt to get too much into their mouths at once, and so mastication is imperfect; and if mastication is imperfect, digestion will also be imperfect.

I admit that the advantages of cutting feed are not so marked in cattle as in horses. That the horse should have his feed cut is an almost absolute necessity. The practice that some have, of giving clear meal and clear hay, is like giving a man clear bread and clear butter. S.

Townsend, Mass., 1871.

DISEASED HENS.

I would like to inquire through your valuable paper, in regard to a disease that has shown itself among my hens. They are sick for a week or two, then die. Upon examination I find their liver three times the usual size. Can you give me any cause or cure for the disease? A READER.

Haverhill, Mass., 1871.

REMARKS.—We have experienced nothing of the kind. Will some of our learned poulterers reply?

FROZEN CREAM.—WASHING AND WORKING BUTTER.

Having been much interested in the articles on butter making in your good paper, I venture for the first time to write a word for an editor's eye. After over twenty years' experience in making butter in winter, I can say that freezing cream does not prevent the butter coming. If I have cream enough to churn, without keeping it too long, I would not freeze it. But if I have but little milk, I practice Mrs. Whatmore's plan of heating it, then skim, put the cream in the coldest place I can find, and when I have enough to churn place the cream in a warm room until thawed, and scald the churn. If the cream is not warm enough, I put in hot milk or water, and the butter will come. The buttermilk and the butter, too, will be perfectly sweet. I would not put saltpetre in cream unless I had kept it until it was *bitter*.

In summer, I wash the butter in the coldest water I can get, washing all the buttermilk out, then work in carefully one ounce pure salt to one pound of butter, and make into pound lumps or pack into stone pots immediately. If it is worked again next day, you only get the salt out and spoil the grain of your butter,—making it greasy.

Spencer, Mass., March, 1871. MRS. E. S. S.

RAISING CALVES.

I claim to be a member of the big Farmers' Club, that B. T., of Addison County, Vt., speaks of, and I wish to make a few remarks about raising calves and corn. I allow the calf to suck until the milk is fit to use, and then learn it to drink. I give it milk warm from the cow a few times, and then a tea made from early cut hay, with one quart of new milk at a feed. When it gets a little older, I put in a handful of oat meal, increasing the quantity as it grows older. When it gets so that it eats hay, I stop giving milk, and in a few weeks stop the tea. I then give it warm water with oat meal, until it goes to pasture. As soon as the nights become cool in the fall, I put the calves in the barn. The first winter they are fed on good early cut hay and roots, if I have them, if not, I give them a little meal. Under this system, I have large, thrifty yearlings. They generally come in when they are two years old, and make the best of cows. I raise none but those from thoroughbred bulls.

RAISING CORN.

After the ground is ploughed I cart on the manure that the cattle have made through the winter. It is put in heaps of five bushels each; the heaps being one rod apart each way. It is then spread and harrowed in. I usually furrow both ways. I put a small handful of hen manure in the hill, to give the corn a start. I cultivate as soon as it is up enough to see the rows. In a few days it is cultivated again. I stir the ground often with the cultivator, and use the hand hoe as little as possible. As soon as the corn is glazed I cut it up at the ground and stock it. In a short time it is fit to harvest. I have not failed of raising large crops of corn by the foregoing process. C. B. RATHBUN.

West Berlin, Mass., Feb. 15, 1871.

WHAT AILS MY MILK?

It will sour, but it will not thicken. It is set in the same place that I usually have set it in winter, and I never was troubled in this way before. Can the FARMER give any reason for it so doing.

A CONSTANT READER.

REMARKS.—The probability is that the place is not quite warm enough. Some changes may have taken place, such as the absence of fire in a certain room, or cracks in the closet which admit cold air and reduce the temperature lower than it was last winter. Try a portion of the milk in a warm place.

COLORING BUTTER.—PREVENTING LICE.

For coloring butter why not urge farmers to raise large quantities of orange carrots? These fed liberally to the cows, will make butter of excellent and uniform color. To put carrot juice or annotto into cream expecting good butter, is what I call a miserable subterfuge.

Another thing. Good hay and meal enough will kill lice on cattle. I have noticed that lice take wonderful courage if they get on a *poor* animal. Hence I prefer to *forestall* the lice by *stall feeding* the animal. DANA BURBANK.

North Pomfret, Vt., 1871.

TIN SAP-BUCKETS.

The sugar season is coming and it is thought will be a favorable one. Persons who have sugar orchards, should make their own sugar, and use tin sap-buckets. They are light, easily packed, transported and stored, need no soaking in the spring, keep the sap clean and pure, do not leak in dry weather, and withal are cheap, costing only 30 to 35 cents each. Try them! ROY.

DAIRYMEN'S CONVENTION.—The fifth annual meeting of the Northwestern Dairymen's convention met in Elgin, Ill., Jan. 24. Mr. O. S. Bliss of Georgia, Vt., was present and was elected an honorary member of the association. In connection with dairy matters generally, the subject of grasses for pasture and hay and their culture was discussed. The following resolution was adopted:—

"*Resolved*, That the use of all coloring matter in the manufacture of cheese and butter is expensive, useless and perhaps injurious, and should therefore be wholly discontinued."

IMMENSE LOSS OF CATTLE BY DISEASE IN ENGLAND.—It appears from tabular statements taken from Morton's Almanac, that the loss from *lung disease*, and *foot* and *mouth disease*, in England, during the last thirty years, is estimated at 5,549,780 head of cattle, and valued at *four hundred and eighteen million, eighty-four thousand, and two hundred and seventy dollars!*

FARMERS AND FERTILIZERS.

ALL THROUGH the autumn, and up to the present time, the farmers of New England have met each other for discussion in relation to their business. These meetings have been numerously attended by practical farmers, many of whom have taken an active part in their exercises, participating in the debates, acting upon committees, and presiding when called upon by the president of the day. Nearly all leading topics relating to the management of the farm have been introduced and ably treated. None, however, have awakened so much interest, or occupied so much time, as that relating to what are called *special* or *commercial manures*. These are constantly urged upon the farmer's notice by agents for their sale, by handbills, circulars and advertisements in the newspapers. He needs, or thinks he does, something more than the common manures of the farm to aid him in producing paying crops, and being desirous to avail himself of such helps, is anxious to learn what the real value of commercial manures is.

At the late meeting of the Massachusetts State Board of Agriculture at Framingham, the discussion upon special manures enlisted more earnest debaters and patient and interested listeners, than any other.

DR. NICHOLS' eloquent address upon "*Manures, Special and General*," elicited so many inquiries, that he was kept upon the stand two full hours in stating his own facts, and answering the questions which pressed upon his audience.

Much was said in relation to the value of these fertilizers, and the opinion was quite general, that if they were pure, it would be economical for the farmer to use them in moderate quantity. Such as in starting certain crops for early market on hill lands inaccessible for heavy manures, or pastures too rocky to be ploughed.

We were present and participated in the discussion at Framingham, and following the tone of remarks, that many of these fertilizers were gross adulterations, stated that we had learned from reliable authority, that "*Sugar-house waste* and *fish pomace* were largely contracted for by manufacturers of superphosphate of lime! We also expressed the opinion that the sugar-house waste was valueless as a fertilizer, and that the fish pomace, when sold to farmers brought only $20 a ton, while $60 a ton was demanded for superphosphates.

Nearly at the close of the meeting and after we had left the hall, President CLARK, of the Agricultural College, continued the discussion and stated that the article known as "sugar-house-waste," was carbonized bone, and a fertilizing substance of much value; and that fish pomace was an excellent plant stimulant.

Referring to this apparent conflict of opinion, Dr. NICHOLS, in his *Journal of Chemistry*, of Feb. 1, says:

Whilst the two speakers were perfectly correct in their statements, there were some important points overlooked in the discussion, which, when understood, serve to clear up what possibly might appear to some as a conflict of statement and opinion. Sugar-house waste is composed of materials derived from sugar refining, other than the bone coal used for decolorizing syrups. This rejected coal is submitted to the action of heat, and the charring process is renewed, when from use the pores become filled with impurities, and it is then fitted again to serve as a decolorizer. The amount of bone coal ultimately rendered worthless by repeated charring is considerable; and undoubtedly this, with the organic filth removed from dark sugars, constitutes "sugar-house waste;" and this is what Mr. Brown was told by the refiners was of but "little value," and all of it went to the "superphosphate" maker. We know that good dry fish pomace is a manurial agent worth about $20 the ton. The price in the market in large quantities is sometimes as low as $15 the ton. Now, the superphosphate maker alluded to may employ both of these articles in compounding his mixture, as intimated by Mr. Brown, and the ingredients, as stated by President Clark, are not worthless; but the important point is *what is the mixture worth? what is its actual value?* That is what farmers wish to know. Has it a fertilizing value of $60 the ton, or only of 20, 30, or 40 dollars? Farmers do not care what fertilizing substances a manufacturer employs, or where he procures them, or how cheap he may be able to buy them. They are willing to pay a fair profit to the maker for any concentrated assimilable plant food that he may be able to compound; but they *do want to know* the exact character of the substances they are solicited to buy, and also their exact commercial and farm value. If a manufacturer can buy sugar-house waste at one quarter of a cent a pound which is actually worth two cents, he is driving a sharp trade, and is entitled to the benefit of his shrewdness. A fertilizer worth 50 or 60 dollars a ton cannot be made from fish-pomace and sugar-house waste, and this was the idea in-

tended to be conveyed by Mr. Brown. We have yet to find in the market a "superphosphate," or any other manufactured fertilizer, that we would purchase for farm employment at any cost approaching that sum.

The above will show, we think, that our remarks are justified by the facts represented. But our point was a still stronger one than we had supposed it to be, for Dr. NICHOLS informs us that "the ground bone, after being used for decolorizing the syrup, is burnt over again from *once to six times*, and then becomes such an inert mass of filth that no art of the chemist can put life into it!"

In that condition, even if it had fertilizing qualities, its horrible stench would make it totally unfit for agricultural purposes.

We have no doubt but the adulterations in special manures are as gross as they are in the milk that is diluted in cities, or the coffee, tea, sugars, spices, and many other articles used in families.

MONTHLY NEW ENGLAND FARMER.

In a recent complimentary notice of this publication, the "*National Farmer and Horticultural Register*" says: "the title page says volume 5, but it seems to us that its face seems familiar for ten years back." We add, that there are now *nineteen* volumes of royal octavo pages, and forming the best agricultural library that can be found. Best, because during the whole time of its publication it has had hundreds of correspondents from among the most enlightened and practical farmers, and has also constantly laid before the reader the important improvements in farm implements and machinery, and the best modes of managing the farm in every respect.

Each volume contains a full and clear index of the subjects which it contains, so that whatever has been said on its pages during the nineteen years can be made at once available by its index. Indeed, as a gentleman said to us recently, who has received it during the whole time of its publication,—"It is the book of the town; no matter what is to be done, if there is any doubt as to the *how to do it*, people come and borrow my MONTHLY FARMER! The binding of the volume is ragged by perpetual use."

This work is now in its *twentieth* year. It is distributed promptly on the first of each month, is printed with new type, on strong, white paper, and is in the best possible form for convenience in reading or for preservation. It contains nearly all the agricultural matter of the Weekly FARMER, and such accounts of machines and implements and other articles as relate to the farm and the farmer's home and interests.

Volumes for 1867, 1868, 1869 and 1870, bound elegantly and lettered in gilt, may be had on application at this office.

The paper quoted above, in speaking of the *Monthly*, says,—"It deserves a *wide circulation*, and we hope if any farmer who loves quiet and contentment, wants something to please him, he will know where to find it."

DISEASES COMMUNICATED BY MILK.

The readiness with which milk absorbs odors is well known to dairymen, who find that if they would make good butter the milk must be kept in a building or room by itself, and away from cooked food and everything else that gives off odors of any kind. We find in the Utica *Herald* some of the facts stated in a lengthy article published in the London *Milk Journal* in relation to milk as a medium for the spread of contagious diseases, particularly of typhoid and scarlet fevers, small-pox, &c. In the town of Penrith, England, a fever broke out in the autumn of 1857. The cases were confined almost entirely to the families supplied by a certain milkman. The matter was investigated by Dr. Michael Taylor, who found that the milkman kept only three cows, and supplied fourteen families with milk. Seven of these families were attacked with fever, without exposure from any discoverable source or any apparent exciting cause. The milkman's family had this fever. The mother, who was the nurse, milked the cows. The milk was taken into the kitchen, where the sick children lay, and measured out for distribution to the customers.

Another instance is related by Prof. Bell, in the University of St. Andrews, where scarlet fever was "clearly traceable to the use of milk poisoned by the desquamating cuticle given off from the hands of infected persons who were employed to milk the cows of a particular dairy." The wife of the farmer who supplied the milk had the disease. She milked the cows. After a while the boy, who also milked and took it to town had the disease lightly, and in due time "peeled," continuing all the time to milk. "On making out a list of the houses in which scarlet fever had showed itself in St. Andrews, and asking the dairywoman for a list of the houses which she supplied with milk, *with one exception there was a perfect agreement in the lists.* In every house to which milk had been sent, scarlet fever had occurred. The cases were twenty-six in all."

In July, 1870, Dr. Edward Ballard, Medical Health Officer for Islington, traced an outbreak of

typhoid fever to the milkman. For fifteen years there had been no cases of this fever in this town. In 1870, there were 168 cases within a radius of a quarter of a mile. Out of 140 families supplied with milk from one dairy, it is stated that "no fewer than 70 suffered from typhoid, and 30 deaths occurred." The origin of the disease was traced to an underground tank on the premises of the milkman. It was stoutly denied that the milk was diluted with water from this tank, and out of charity it was suggested that possibly, as the water was used for cleansing the milk cans, enough might still remain to poison the milk, without any intentional admixture with it being practiced.

WOOL AND MUTTON.

At the winter session of the New York State Agricultural Society at Albany, Feb. 8, 1871, the Hon. J. R. Dodge, of the National Department of Agriculture, read a paper in which he discussed the questions,—Why are wool prices depressed? How can Sheep-husbandry be made profitable in the future? What breeds should we grow? And where shall each be produced?

We have not space even for an abstract of the views presented by this gentleman, farther than to say that he takes a hopeful view of the whole subject. The older and more densely settled portions of the country must adopt the "mutton-with-wool" element as an inseparable adjunct of high farming—mutton as the product of large yields of the roots and grasses, obtained in the shortest period of time and in the largest measure of quantity, with wool as a valuable incidental, and manure as a third result of present intrinsic value and still greater economic importance as a productive investment.

Farmers must recognize in their management and feeding, the fact that the merino is to be *kept* for wool, and the Leicester to be *killed* for mutton.

We copy his closing paragraphs:—

In closing, I would say to wool-growers, thank God and take courage; instead of faint-heartedness there is abundant occasion for high encouragement. You can only thrive in companionship with the manufacturers; and have no occasion, and I pray you may never have, either to go abroad for woolens or for a market for your wool. Contrast the prostration of manufacturing at the close of the war of Great Britain, when the bars of the customs were let down, and the invasion of woolens proved far more a calamity than the invasion of red coats for the three previous years, with the condition of the business of manufacturing to-day. Before that war, in 1810, the value of woolen manufactures was $25,608,788; after it, in 1820, it was but $4,413,068. Before the recent war, in 1860, the value was $68,865,963; after it, in 1868, it was $175,000,000—two-thirds of it the product of wool of the United States. Is that a cause of discouragement?

No man in his senses, and with ordinary intelligence, can fail to see that the tariff of 1867 has been the salvation of our sheep husbandry—salvation from a more complete and remediless overthrow than awaited the business at the close of our war with Great Britain a half century ago.

You should adapt your business to the changing exigencies of the times and the progress of the country, making fat mutton and fine lambs the leading considerations in populous regions, where the demand is imperative for more food for the people, and improved culture for the soil, and leaving the production of wool alone mainly to the pastoral regions of the far West, where 8,000,000 to 10,000,000 sheep are now profitably kept, in place of scarcely 2,000,000 in the Territories and Pacific States in 1860. The region west of the Mississippi now yields nearly as much wool as the whole country produced in 1860, and is capable of producing enough for the supply of our population for many years to come without the importation of a single pound.

Then contrive to improve your flocks, increase their yield of wool, give them better care, protect them against diseases, persistently and intelligently follow your business without discouragement or fear, and you will find that any present cloud will show a silver lining, prophetic of a glorious future of prosperity for yourself, for agriculture, and for the country.

FARMERS IN AGRICULTURAL SOCIETIES. — The State Board of Agriculture of Massachusetts, at its late business session, adopted the following resolution:—

That each Society in the State shall publish a catalogue of its members in connection with the transactions of the present year—and that in arranging this catalogue the occupation of each member be set down against his name.

The object of this vote, as stated, is to ascertain how generally the influence of each society extends among farmers, and to what extent the membership is composed of farmers.

We apprehend that this classification of the members of these various societies will be much more difficult in practice than in theory, and it might be well for the Board itself to illustrate the operation of the classification proposed by applying it to its own constituency.

What, to begin with, would be the classification of the members of the "Committees for Investigation and Report," appointed by this Board for 1871, as follows:—

The Breeding of Domestic Animals—Messrs. Agassiz, Loring, Hyde.

Field and Garden Seeds—Messrs. Moore, Hyde and Clark.

The Cultivation and use of Forest Trees—Messrs. Clark, Goodman, Darfee.

The Cultivation and Preservation of Fruit—Messrs. Wilder, Fay, Hubbard.

The Management of the Dairy—Messrs. Ellsworth, Allis, Phinney.

Agricultural and Horticultural Education for Women—Messrs. Goodman, Wilder and Birnie.

A BOY FARMER.—The editor of the *Maine Farmer* was made happy by receiving the following letter:

"Last spring father gave me some land, and told me I should have all I could raise on it. I harvested two bushels of nice shelled corn; one bushel of yellow-eyed beans and five bushels of potatoes. I am nine years old. Do you think any little boy that reads the *Farmer* has done any better?" FRANKIE L. PAINE.

Bean's Corner, Me., 1871.

Frank certainly tells a good story, and tells it well. If none of the NEW ENGLAND FARMER boys can make as good a report of their last year's operations, will not some of them try their hand at farming next year, and let us know how they succeed?

EXTRACTS AND REPLIES.

GAS-HOUSE LIME.

I can buy refuse lime used at the gas-house for ten cents a barrel. Will it pay at that price to draw it three miles? To what crop is it best adapted; and in what way shall it be applied? What are the objections to it, if any? C. H. F.

Vermont, Jan., 1871.

REMARKS.—When very carefully used, gas-house lime may be serviceable if not brought too near the germinating seed or growing plant.

It may be used moderately upon mossy pasture land, especially if grass seeds are sown about the same time, and worked down with a brush harrow.

If scattered upon ploughed lands in the fall, the rains would dissolve and mingle it with the soil, so that no seed would be likely to be injured by it in the spring. It may have the effect also, to destroy slugs and wire worms in the soil.

When preparing land for a crop of early turnips for market purposes, we should suppose a light dressing, thoroughly mingled with the soil, would be an excellent dressing.

When composted with peat and coarse manure, and exposed to the air for several months, it is said that the soluble portions of the lime will be converted into gypsum (sulphate of lime) by the action of the air. If so, the resulting benefit will be a good dressing of gypsum. Some 29 parts in 100 being gypsum, and 56 carbonate of lime.

In small quantities, gas-lime is thought to be useful if mixed with barn-yard or any animal manures. It is said that scattered sparingly over young turnip plants, it prevents the attacks of the turnip fly. It is too pungent to be applied to most other growing crops, or to come in contact with seeds.

A good many experiments have been made with gas-lime, most of which have resulted unfavorably. The complaint is that it burns, or in some way destroys the seed or crop to which it is applied. So would hen manure, or the guano of commerce. If manure is powerful, it must be used cautiously.

We hope our correspondent will test it and report results to the NEW ENGLAND FARMER.

PEAT COMPOSTS.

Will the NEW ENGLAND FARMER inform me in what proportions meadow mud can be composted with lime, salt, ashes, bone-dust and hen manure, so as to produce the best results in top-dressing and hoed crops? WM. P. ENDICOTT.

Salem, Mass., 1871.

REMARKS.—We know of no exact formula for composting peat with the articles mentioned above. In Dr. Dana's Muck Manual several formulas are given for composting peat. One is to mix in the proportion of thirty pounds of potash, or twenty pounds of soda ash, or eight bushels of common house ashes, to every cord of fresh dug peat, estimating this by the pit dug out, and allowing nothing in the spring for shrinkage. If ashes are used they may be mixed in at once with the muck; but if soda ash or potashes are used, they must be dissolved in water, and the pile evenly wet with the solution. The pile then is to be well shovelled over and used as is other manure. Peat may be dug in the spring, immediately mixed with the alkali, and used forthwith.

Another form which he recommends is, one bushel of salt, and one cask of lime. Slack the lime with the brine made by dissolving the salt in water sufficient to make a stiff paste with the lime, which will be not quite sufficient to dissolve all the salt. Mix all the materials then well together, and let them remain ten days, and then be well mixed with three cords of peat; shovel well over for about six weeks, and it will be fit for use. It is believed that this will be found an effectual manure.

A third form is to take three cords of peat, sixty-one pounds sal ammoniac, sixty-one pounds lime. Slack the lime, dissolve the sal ammoniac, and wet the peat well with the solution through every part. Then shovel over, mixing in the lime accurately. The *three* cords are used in these calculations, because the quantity of salts is equivalent to the ammonia in a cord of dung.

It is quite probable that a *precise* amount of each article enumerated by our correspondent would be more efficacious than amounts used without reference to any known chemical action they might have upon each other. But the only true test, after all, we think, would be the use of such a compost in the soil.

A reference to chapter vii. of the book referred to above may be of service to our correspondent.

We make annually a compost as follows: five barrels hen manure; fifteen barrels fine peat; eight barrels well rotted dung; five barrels house ashes; or any quantity in about those proportions. After manuring broadcast for corn, and working it under two or three inches, a handful of the compost is spread about in the hill, and slightly covered with the foot as the corn is dropped upon it. This not only gives the corn an early start, but seems to carry out the crop to perfection. We have no doubt it would operate equally well as top-dressing.

TO PROTECT PLANTS FROM COLD AND LICE.

I have been very much interested in S. O. J.'s articles on window gardening, and perhaps her answer to a few questions would benefit others as well as myself. I have some forty-five or fifty pots, with a south exposure at three adjoining windows. On frosty nights, I put up a large curtain on the *outside*, which keeps the cold off entirely. The curtain is made like a "bed puff," or "comforter," with rings at the top, and strings at the bottom to keep it close to the window. It is an excellent thing. But I am troubled with lice on my Verbenas, Lantanas, &c. I have tried tobacco smoke, but it makes me sick. The last time I smoked them, I shut them in a large box, but the smoke would come out, and it did not kill all the lice either. Now if you will tell me how to get rid of them I will be thankful. I have a plant, which I planted last spring. June 30, it blossomed, and remained in bloom till Christmas. It is now in

bloom again. I call it a free bloomer; it is about three feet tall, with blossoms on the top, but no branches. I send you a leaf and blossom, and would like to know the name of it. ROMEO.

South Hanson, Mass., Feb., 1871.

REMARKS.—The best remedy for the green lice is frequent showering with warm water—not too warm to injure the plants. Spring and summer showers will drive them away. They thrive on the hot, dry temperature of our "sitting" rooms.

If "Romeo" will dip the plants into warm water, shaking them up and down in it, most, if not all of the troublesome pests, will be destroyed.

Verbenas are always much troubled with parasites. I have taken a chicken's wing, spread a newspaper down, and set the pot upon it, and have brushed off every tiny "nit."

Tobacco smoke is so offensive to me that I have never tried its narcotic effects. It does not kill the *aphis*, only stupefies it, and unless it is followed up with a good washing, all the green pests revive and are as lively as ever. The leaf and blossom enclosed are evidently from an *Euphorbia*, and I should judge it was of the *Jaquiniflora* species. It has long clusters of bright orange scarlet flowers, and is very attractive.

"Romeo's" protection against the frost is worthy of imitation in the arctic regions of New Hamshire. I shall certainly adopt it. S. O. J.

POTASH FOR THE SOIL OF ORCHARDS.

In answer to an inquiry from one of your readers, "What is good for apple trees?" you say use ashes or its equivalent in potash. Now what I want to know is, what is its equivalent in potash? and do you regard the same strength from potash as good as the same strength from ashes?

RIP VAN WINKLE.

REMARKS.—One hundred pounds of good hard wood ashes, would yield about ten pounds of potash. But the ashes would yield some half dozen other articles, in small portions, all of which would be good for trees. We suggested potash because that—properly diluted and applied,—can always be obtained, and is better than any other one thing. If good peat were saturated with potash water, it would make an excellent top-dressing for orchards, or indeed, for any of our crops.

The value of ashes is so well understood now, that nearly all farmers are seeking for them, and consequently they bear a high price.

SHEEP RAISING AND FATTENING.—FOOT ROT.

I am one of those that are foolish enough still to try to make a living by keeping sheep. I keep a large ized, long stapled variety of fine wool sheep. Started with 409 last winter and come out with 408 at shearing time. Sheared 2593 pounds of fleece wool, and two fleeces unwashed and 53 pounds tags besides. The wool brought about $2.69 per head.

I feed my lambs, excepting a few kept for breeders, so that they go to market when one year old. They bring me seven cents per pound after being sheared. I raised a few over 200 the past year. Sold some culls; saved 25 for breeders, and have 160 feeding for market. With the luck I usually have, they will bring $4.60 to $5.00 per head. My breeding ewes have at the rate of ten quarts per day of oats or corn to each one hundred. My feeding lambs, 27 to 30 quarts per hundred a day.

If any of your correspondents will tell us how to do better and keep our manure at home, they will do at least one subscriber a favor.

The foot rot is the *continual* curse of this country to sheep raisers. I hope the cattle disease will be subdued so that it will not prove a like curse to cattle raisers. C. C. C.

Centre White Creek, N. Y., Feb., 1871.

REMARKS.—Whether or no any one undertakes to tell you how to manage better than you do, we may assure you that more than "one subscriber" would thank you for further details of the plan you are "foolish enough" to adhere to. Coming events may demonstrate that there is less folly in your course than in that of many farmers who have become so wise as to quit trying to get a living by keeping sheep.

WHY DO CATTLE EAT BOARDS?

Being a reader of your valuable paper, I would like to inquire through its columns the cause of cattle eating boards? A neighbor is wintering six cows and four calves; when they find pieces of boards six inches and more in length, they will eat them, and will gnaw the boards on the fence.

The cattle have *plenty of salt*, and *bone meal* occasionally. If you know of any cure I would like to know it. D. I. PEACH.

Wells River, Vt., Feb., 1871.

REMARKS.—We have underscored the words "plenty of salt" and "bone meal," in order to give them emphasis, because the lack of those two articles are so many times said to cause cattle to chew boards, bones, &c.

There are plenty of cases recorded, where cattle are abundantly supplied with salt and bone meal and yet they continue to gnaw bones, chips, old shoes and other things.

The theory that the soil upon which cattle feed has been exhausted of its bone-making elements, does not seem satisfactory, and is not probably the cause of the morbid appetite which induces the gnawing.

If bone-chewing were an evidence of exhaustion of the soil, cattle on the prairies of the West would not be found chewing bones; but this we are told does occur there as well as in New England.

During the period of gestation, there may be some exciting cause for a cow gnawing almost any thing. But why it should take place in calves, who can tell?

The same cause may operate with colts as with young children—gnawing something may give relief to the gums.

Is it probable that animals who always feed upon the spontaneous growth of the soil ever gnaw bones, boards, old leather or anything else than tender, succulent, vegetable growth? We rather think it is not.

It must be remembered that our domestic animals are not existing in their natural condition; that they are deprived of their liberty; that they are protected from the elements at one period, and

exposed to them at another; that they are fed upon dry and harsh food, and instead of taking it at such times as their nature suggests, must take it, water included, when man prefers to present it.

Is there not, then, some reason for supposing that the singular appetites noticed may result from this change of their normal condition into an artificial one; into one where certain elements are needed for certain animals, which all our care and all our philosophy fails to supply?

Why does the horse, when ploughing in the spring, plunge into the furrow and eat a pint or more of the fresh, moist earth? Why the ox frequently turn his head aside and lick the upturned furrow with apparent relish? What ploughman has not often witnessed these things? And yuo who can tell the why and the wherefore?

We can only say this—cattle and horses that have much access to the ground, and especially to a mellow soil, are less addicted to board and bone-chewing than those that are confined to the stall and cowyard, and seldom tread upon the bare earth in the winter.

If not allowed a range beyond the barn yard, we are inclined to think that a few buckets of fresh earth, thrown into a box where each animal should have its turn at it, would do more to check the habit of chewing than all the nostrums of the apothecary's shop.

But, those who are wise in this matter will please communicate.

GALLED NECK OF HORSE.

Please inform a young farmer what will cure a horse that has been chafed on the neck by the collar, while in the harness. It appears in the form of little boils. After standing in the barn the neck becomes quite stiff. J. H. K.

Barre, Vt., Feb. 5, 1871.

REMARKS.—We apprehend that something more than a mere harness gall or chafe is troubling your horse, or that you have continued the chafing process longer than you ought to have done. A few days' rest, or some change in the harness so as to relieve the sore spot, with a wash of aloes and myrrh, or even of some ordinary healing herbs or bark, is generally sufficient to effect a cure in ordinary cases. But the boils you mention indicate a bad state of the system, which you should inquire into.

MUCK WITH MANURE, AND MUCK ALONE.

Having seen different opinions expressed in the FARMER with regard to the value of muck, I will give you a little of my experience. I have on my farm a plenty of nice black muck from one to three feet deep, quite free from sticks and roots, easy to drain and handy to the barn. Early in the fall before rains come, I draw enough of this muck into the barn cellar to cover it about ten inches deep, and under the stable where the manure will fall on it nearly two feet. The young cattle and sheep run on this through the winter. In the spring I draw the manure from under the stable and spread it on greensward, and plough it in for potatoes.

After spring's work I plough up the muck and manure remaining in the cellar, break up the chunks with an old ax, shovel it over, and mix it up the best I can, and let it lay until September; then use it principally for top dressing or to plough in, as I like. I cannot see why it is not as good as though it was all manure. It certainly brings up a good crop of grass.

To prepare manure for corn, I put eight or ten loads of muck in the hog yard in June, let the hogs run on it through the summer, and in the fall put in three or four loads of manure from the barn yard, with some refuse straw, &c., and with three or four hogs to work it over, it makes excellent manure for corn. One year ago last spring I did not have quite manure enough to finish a piece of corn, so I took some muck from the barn cellar, without mixing any manure with it, to finish the piece, putting it in the hill and hoping it would prove a good substitute for manure. But in this case I was disappointed, for I only got pig corn where the muck was, while the other part of the field was good for the season. This is good evidence that muck in its crude state is not very valuable.

We had snug winter weather, with snow enough for sleighing till about the middle of January, when our sleighing went off, and up here in Vermont, where the snow is usually two or three feet deep at this time in the year, we have not enough for sledding.

Hay is spending well this winter, and the industrious wide-awake farmer who cuts his hay early, has no cause to complain but what his hay is good and spends well this year. C. M. FISHER.

Cabot, Vt., Jan., 1871.

TWENTY-FIVE YEARS' EXPERIENCE WITH COWS AND BUTTER MAKING.

We have had twenty-five years' experience in keeping cows and making butter. The first cow we owned was speckled, and supposed to have been part Durham. She was an extra cow, giving over forty pounds of milk a day in the best of the season, with only pasture feed. Her milk was as good as I ever tasted. Her butter come very quickly after putting the cream in the churn, but could not bring it by stirring it with a paddle in the cream pot. We have had in all probably about twenty of her descendants, and have never had any difficulty about churning the cream of any of them. With the cream of one of them it was only necessary to stir it a few times round the pot with the paddle to produce butter. But this cow gave inferior tasting milk. In the best of feed she would average one and a half pounds butter per day for several weeks at a time. The cream on her milk would rise very much sooner than on that of other cows, and if not skimmed at the proper time there would be white specks in the butter.

My next cow was a large red one that gave good milk, but when she was drying off I never could bring the butter. I did not then know anything about heating the cream.

Next came a brown cow, whose mother was a prize animal. She gives good milk, but her cream requires two hours' time, through the year, when churned alone; but if her cream is mixed with "Whiteface's" it comes sooner.

"Whiteface" is only three years old, and is a descendant of a family of great milkers. She is a good one herself, and her cream requires but a few minutes stirring to make butter.

So much for the cows. Now for their treatment, which has been as nearly alike as possible. They have only pasture in summer, and hay with some roots in winter. I have set the milk in both cold and warm rooms. I cannot make as good butter when the cream is raised in a cold room as when in a warm one.

And now let me add, for the benefit of young

butter makers, who have trouble with their butter, whether from bad flavor, white specks or in churning, set each cow's milk separately, skim and churn the cream separately, and you will then know which cows are good and profitable, and which are fit only for the butcher. D. W. E.

Hampden County, Mass., Feb. 7, 1871.

NEW WAY OF RAISING CORN FODDER.

In reading your valuable paper I have seen many articles in regard to raising sweet corn for green fodder. My method of raising it is this: I plant my corn in hills three and a half feet apart one way and two feet in the row, putting a shovelful of rotten manure in the hill. I plant it as soon as possible on account of frost, and hoe twice well. I plant only sweet corn. As soon as the corn is large enough to sell I break off the ears and send to market; then cut up at the ground, let it wilt and feed to the cattle. I have sold sixty dollars' worth from half an acre of ground, and had the fodder left. I have tried planting in drill, in rows and also sowing broad-cast; but planting in hills gives me the best result.

I am careful not to allow more than three kernels in a hill to grow. My cattle will eat corn grown in this way far better than that grown thickly in drill or broadcast, besides the ears sell for enough to pay all labor. A great many people put off planting their fodder corn until it is so late that their corn is not fit to use until the shortest time for feed is over. If they plant their corn for fodder as soon as the weather will admit, it will be fit for boiling by the first of August, which is the time to commence feeding cows.

Although many people slur the idea of making milk on corn fodder, I think any one who will plant corn for fodder according to my plan, will be convinced of its great value for that purpose. It does not follow that we are obliged to break out all the ears that grow, for cattle will not object to the ears with the stalks. I think one can raise more worth of fodder in this way on the same ground, than by the usual mode, and have the ears left for use or market. J. ALLEN.

Shrewsbury, Mass., Feb. 13, 1871.

COLORING BUTTER.

A great deal is said now-a-days about "coloring butter," and quite as much puff about "annoto" at $2 a pound. I have been making butter for several years, and can always command five cents a pound more than any other on the market at Dunleith for my butter, and I beg to give your Rhode Island correspondent my mode of coloring butter. During the winter months when cows have to be fed on dry food, I *grate* a large garden carrot raw, after well cleaning it, and put it to simmer on the stove for about half an hour or so, then pour it through the sieve with a bit of fine muslin in it, and put the water into the cream just before I begin to churn, and my butter is a bright June-like color. But another secret in butter making is the feed the cows have.

"WHAT AILS THE CREAM."

I have read Mrs. Carrie's communication in the FARMER of January 21, and was much pleased to see her mode of management of the cream, and her description of her closet. But the "good lady" omitted to answer "S.'s" inquiry, "What ails the cream?" I think the cream was frozen, though perhaps not sufficiently to coat it over with ice. I have had the same trouble with my cream, and on one occasion churned all day and part of the next to get the butter, which was not good after all. The cause was the cream had been frozen in the jar. I beg to give my mode and a few little notions I have conceived in butter making. I put rings or flattened horse shoes on the stove and set my milk pans—earthen ones—thereon, *after* the milk has stood on the shelf from twelve to sixteen hours, and let the cream well rise, *but not* let the milk boil, and put back on the shelf till next day before skimming. I put into the cream jar one teaspoonful of saltpetre, dissolved in a little warm water, and two teaspoonfuls of salt *not* dissolved, to two gallons of cream, put both into the jar at first skimming. I stir the cream every day when fresh cream is added. I put the cream jar near the stove for ten or twelve hours, turning it frequently to get the cream warmed gradually before churning, but never scald the cream. MRS. MARY WHATMORE.

Bridgnorth Farm, Dunleith, Ill., 1871.

ASHES FOR APPLE TREES.

Having lived on a number of different farms in this section of country, and finding on each of them old and apparently useless apple trees, it became a matter of no small importance to devise some method by which they could be brought into bearing condition, and thus pay for the use of the land they occupied. After trying various experiments, I took a bushel of leached ashes and spread it under two trees. To my great surprise the next year those trees were loaded with fruit fair to look upon and delicious to the taste. Repeated applications of wood ashes around apple trees that had previously borne but little fruit, and that of an inferior quality, have led me to conclude that no investment of so small an outlay would so richly reward the farmer for his labor as the one here brought to the notice of the readers of the NEW ENGLAND FARMER. E. G.

North Leverett, Mass., 1871.

WARMING OR SCALDING CREAM.

We once churned from six to eight hours on the cream from one cow, on two different weeks, and could not bring butter. In attempting to make cake of the churned cream, we added a little saleratus, while warm, and the butter separated, showing to us that the fault was not in the cow, feed nor cream. The next week we set our pot of cream into a kettle of cold water on the stove stirring occasionally until it was luke warm, not having a thermometer. We scalded our churn, put in the cream; and after ten minutes churning the butter came as nice as in the summer season, except in color. This we have tried repeatedly with the same result. If it is of any value to those who only make their own butter, it may be worth printing. I. AREY.

Minneapolis, Minn., 1871.

ASHES AND POTASH.

Owing to the scarcity of wood ashes, I wish to apply potash, and would like to inquire through your valuable paper how much to apply, to amount to the value of fifty bushels of wood ashes?

WM. EUSTIS.

Newburyport, Mass., Feb., 1871.

REMARKS.—A bushel of hard wood ashes contains about (not quite) *five pounds* of real potash, which would give 250 pounds of potash to fifty bushels of ashes.

HOW SHALL I USE WATER FOR COOLING MILK?

I have a good stream of spring water, which during the hot weather maintains a temperature of 58° to 60°, and which can be conveyed into my milk room at a mere nominal expense. Now just how shall I use it? Shall I construct a vat of sufficient size for the pans of a single milking, and then remove them to the shelves at the time of the

next milking, or would it be better for the pans to remain in the water until fit to skim? To what depth would it do to set the milk, if it were to stand in the water until ready to skim? In short, what *is* the best and most economical way of doing it? I care nothing about *theoretical* advice, but would like that, founded upon experience or observation. Would like to hear from Mr. O. S. Bliss.

CHAS. E. JONES.

Waitsfield, Vt., Jan. 30, 1871.

TOBACCO SALES.—INJURY TO A BUILDING.

The small lots of tobacco are gradually passing into the hands of speculators at their own prices. Mr. J. Osborn has sold during the week past, at twenty-five, fifteen and five; Mr. Goddard a lot of frost bitten, at five cents; Mr. L. Button at twenty-five and five; Justus R. Cooley sold his tobacco for thirty cents through. It was a very good lot. A number of sales have been made in the other parish—Feeding Hills—prices ranging from five to thirty-five cents. Some New York parties are *en rapport* with experts this way, and I presume another week or two will move some good lots.

We had a real gale last Friday night and Saturday morning. It moved the tobacco shed of the Parson Brothers some six feet off its foundation, breaking the posts and girts badly. It still stands, and if it can weather the winds of winter may be repaired without being taken down. It was a good building, some 120 feet long, 25 wide and 18 high, and nearly new. L. ALLEN.

Agawam, Mass., Feb. 13, 1871.

BUTTERFLIES.

How are butterflies killed where they are wanted to be kept in their natural state, and where can the Taxidermist's Manual be obtained, price, &c.?

E. N. S

REMARKS.—Catch the butterfly in a net prepared for the purpose. Place him under a tumbler, uncork a vial of ether and place it at its head. A sniff or two will destroy life and not change its delicate colors. So says a niece at our side, who has practiced considerably in that line. We cannot answer the other part of your question.

CURE FOR BARN ITCH.

I have found coal ashes liberally sprinkled on the cattle and about the stall and floor, a remedy for this troublesome disease. L. WOODBURY.

Lancaster, Mass., 1871.

For the New England Farmer.

DEPOPULATION OF RURAL TOWNS IN NEW ENGLAND.

The census is confirming what was only too apparent to even the casual observer, that the population of many purely agricultural towns is decreasing. In every part of these six States there are towns which poll fewer votes than they did ten and twenty years ago, and school districts which cannot muster as many children as formerly. Instances are found where the cellars and foundations over which once stood the homes of prosperous families, outnumber the present dwellings of its inhabitants. The number of farms is decreasing,—the larger ones absorbing the smaller; cultivated fields are being turned into pastures or given up to wood, and ere long wild animals will return to their former haunts amid the hills and valleys of our dear old New England.

The census further shows, in the sum total for the different States, that New Hampshire has experienced a material loss, being now about where it was twenty years ago. Maine and Vermont have scarcely held their own during the last decade, while Massachusetts, Rhode Island and Connecticut have fallen from their former rate of increase. And yet the past ten years have been a period of unparalleled success to our manufacturing, mercantile and railroad interest; agricultural products never sold better, and no class of citizens have had extra inducements for migrating. It is a good time, upon the whole, to observe the tendency of population.

We find that in three States all the gain in the villages and cities does not counterbalance the losses of the rural districts. The decrease among the tillers of the soil does not arise then from a change of employment, but from a direct migration out of their native States, and from the fact that they do not multiply as formerly.

This backward tendency of our population very naturally suggests important considerations. Can New England afford to thus lose its citizens, or to suffer a depreciation in any branch of industry? Will the increasing wealth of her manufacturers, merchants, bankers and brokers make good the loss in agriculture? The earnings of farm laborers average some $300 to $500 per annum; and farmers having 100 acres in fair condition, can add to the products of their State $1000 to $1500 each. Cultivated land when given up to pasture and woods, at once depreciates in value twenty-five to seventy-five per cent.; and all the severe labor that was expended in bringing these acres into tillage is lost, to say nothing of the cost of erecting buildings and fences.

Every industrious man helps increase the wealth of his State; and when one such migrates, and a farm is abandoned, there is an appreciable loss. The figures which represent it may seem small compared to the grand total, and railroads and labor-saving implements may in a measure compensate for the decrease or scarcity of men, still it is not too insignificant to be noticed. When the young and robust are leaving by hundreds and thousands every year, as in New Hampshire, the results will tell upon the prosperity of a State. The effects may not be seen in the rapidly growing manufacturing village or city, but in the small rural town they are seen and felt.

By the removal of any considerable number of tax payers, the maintenance of roads and bridges, schools, churches and charitable institutions falls more heavily on the remainder. It is better for a farming community to have the country thickly settled, even at the risk of a sharper competition in the produce markets. A steady decrease in population is the most

discouraging and paralyzing event that can happen to it.

Should the depopulation of our rural districts continue at the present rate the effects will be felt indirectly, if not directly, in our now flourishing villages and cities; and the time is coming when manufacturers themselves will be earnest to have every acre in their town, country and State yield to its full capacity. To enable them to prosecute their business successfully in this corner of the union, so far from the great centre, withstanding the competition that will come from the rising establishments at the South and West, they must have cheap labor,—cheap as the cheapest. Cheap labor depends largely upon cheap food, and where can food be obtained more readily and cheaper than from farms in the immediate vicinity of our factories and work-shops? I am well aware of the views, frequently entertained by our business men, that the agriculture of New England is nothing compared to the other industrial pursuits; that it is no place to farm; that a young man of enterprise who wishes to be a farmer is very foolish to settle down amid these rocks and hills. Go West or South, say they, if you wish to get a living by farming. Thus they do, perhaps unawares, favor migration, and discourage our agriculture. If this is true of farming is it not of manufacturing? Why continue to build such large and expensive establishments where there is nothing but rock, sand and gravel, water, ice, and pure air? Would it not be better to locate factories and work-shops where provisions are raised more abundantly, and where fuel, raw materials and the great markets of consumption of your goods exist?

When our manufactures were in their infancy, New England produced a surplus of food; now we are sending five hundred and a thousand miles beyond its limits for materials and the common necessities of life. Every thousand dollars thus sent to the West or the Canadas for provisions which might be raised at home, is just so much taken away from our wealth.

Any one with few figures can form some idea of what we are annually losing for the want of more men to till the soil. A higher development of our agricultural resources would largely increase our capital and contribute to our independence. To check all retrograde tendencies and institute vigorous progressive movements throughout our rural districts is the work of the hour,—the immediate work for our Boards of Agriculture, County Societies, Town Clubs, and for every public minded citizen.

But many will say what can be done? Five and twenty years have our agricultural orators been preaching against migration, and still the tide from the farms of young men and women and whole families have moved steadily on. They are leaving it now; and will continue to leave it for aught that can be seen to prevent. Very well, if they will go, it is useless to try to keep them back; nay, it may be unwise to keep back such as continually feel out of their element, and that destiny calls them to occupations, or some other part of our country; for from this tide of migration many noted examples of success have sprung; many valuable enterprises in our own States have been begun, and other States have received most valuable additions. If the agriculture of New England has suffered from this cause, other States have gained thereby, and thus the nation may not have been a loser. Trying to keep upon the farm, then, such of our sons and daughters as cannot and will not be contented may he be impolitic.

How then can the depopulation of our rural districts be checked, if those born and educated upon the farm are not retained within our limits? By filling the vacancies with another and different class of citizens; those who will be contented to live in a climate and till a soil like ours. This can be done,—

1. From our cities. Notwithstanding there is a continued stream of population pouring from the country to the city, there are those in every large town and city who long for country life; those who are weary of the din and bustle of large factories; those worn out by unremitting toil in dark, damp, badly ventilated work shops; those who are sick of the perplexities and uncertainties of mercantile pursuits, and who are anxiously looking forward to the time when they can own and cultivate a few acres and enjoy somewhat of country life. Some may have no means save willing hands, while others could command a small capital, and a few possess a competency. With a little perseverance these can be sought out, and many a farm now without an occupant, or which has been in the market for years, could be readily disposed of, if the seller would look toward our cities for customers.

2. From the thousands of immigrants annually landing upon our shores. From these could be selected those who have always worked upon the land, who desire to do so all their lives; and who by their patient industry and frugality can more than make a living from the soil our native born sons disdain to cultivate. They only need to be invited to towns in which there is much land for sale, welcomed and encouraged a little at first.

3. Another way of maintaining our rural population is for farmers who employ help throughout the year or for a greater part of it, to erect neat, comfortable, but inexpensive houses upon their farms and hire more married men. Were there five farmers in a town who would adopt this plan this year, and five more who would follow their example next year and each succeeding year of the present decade, that town would add to the population fifty families and at least two hundred inhabitants. More per-

manent and better help would be obtained; female and children's help would be brought into the town, and all that is now said about the scarcity of laborers would be hushed. Farmers having plenty of help could cultivate their land better, increase their incomes, enhance the value of their property and at the same time benefit their town and State.

It is useless in these days of fraternization of races to be over-sensitive about the nationality of one's help, neighbors or townspeople. Were the West at all fastidious upon these points, these new States could never have made the gigantic progress in population and agricultural development that they exhibit. We have the Englishman, German, Scotch, Irish, Swede and French Canadian, from whom we can choose. We have only to open the way to our inland towns and to the land without cultivation, receive them cordially and give them the same encouragement they receive at the West and they will soon make permanent homes with us, and the population of those districts which is now decreasing will be put upon the ascending scale and their products doubled and trebled. Scattered here and there in our midst, they will be under the full influence of our institutions, and it will be our duty and privilege to Americanize, and, if we choose, to New Englandize them.

N. S. T.

Lawrence, Mass., Feb., 1871.

For the New England Farmer.

WHY DON'T THE BUTTER COME?

I have been much amused with an article in the NEW ENGLAND FARMER under this heading, written by A. W. Cheever, Sheldonville, Mass. I can sympathize so fully with his experience that I desire to tell him my story.

I had always preached that "any cream could be churned, if a person only had brains enough—there was the rub!" But alas, for my proud pretensions! In an evil hour they were brought low. The cream had been forced to stand longer than usual, owing to circumstances beyond my control. The mercury was far below zero, and though I kept the cream where it did not freeze, still it would not sour.

I commenced operations as usual; placed the cream jar in scalding water, stirred it every few moments, then applied the thermometer, and the mercury rose to the right point. The churn was then scalded, and the cream—six quarts,—was turned in, and as the girl began to turn the crank, I exultingly announced that in fifteen minutes at the farthest, the work would be finished. Three times fifteen minutes that crank was turned indefatigably, but with a great sense of fatigue to the operator. Then a pint of boiling milk was added. Evidently the proper degree of heat had not been reached. Again the crank was worked with a will; another three-quarters of an hour passed; the cream foamed as if prepared for "whips." Paterfamilias came in to lunch, examined the cream, listened to my account of the work, and with a true sense of man's superior knowledge in all matters, in doors or out, said—

"Cream is not sour, of course the globules containing the butter cannot break."

So a tablespoonful of alum was added, and he took his turn at the crank, confident that his ability would soon bring the butter. Nothing loth were we to relinquish the hard work to stronger arms and superior muscles, if not brains. But I must stand by and watch the work, as it was no fun for him to churn unless I stood beside him "to superintend matters." So I meekly acquiesced to his demand, though a charming book tempted me to the parlor.

Round, round and round in ceaseless whirl went that dasher, until an hour had passed. "I give up," cried paterfamilias; "no use to churn this stuff! Give it to the hogs. What did O. S. Bliss tell "S." to do when the butter would not come?"

Then the NEW ENGLAND FARMER was consulted and O. S. Bliss' directions read.

"Scald the cream, and then cool it to 60°."

"Ah! yes, that's it. Why didn't you scald it?"

So the cream was turned out of the churn and duly scalded until the surface "crinkled."

"Now it will surely come," announced Paterfamilias. "Cool it all right and churn away." The process commenced again, but the patience of the "superior sex" was soon exhausted. Woman's powers of endurance lasted awhile longer, but the cream had been *kept too long*, and with feelings of sad humiliation, I turned it into pans to be used for "shortening."

My voice will never again be heard boasting of my ability to churn butter; my pen will never again be used to declare that all cream *can be* turned into butter. Like A. W. Cheever, I am thoroughly cured of preaching on the subject of churning. I also came to the conclusion that there was butter enough on hand for the family supply, and that hence forward the cream should be eaten rather than churned. Paterfamilias is delighted at this announcement, as he has a fondness for baked apples and cream.

I read "Carrie's" account of her experience at butter-making with pleasure, and wish that many others would give us the benefit of their knowledge on the subject. I wish she would try the Devonshire method of raising cream, and instead of scalding the milk when strained, wait twenty-four hours and then place the pans on heated bricks over the stove until the cream crinkles, but does not boil. Devonshire dairies are celebrated for their butter, and this is the process they adopt in preference to heating the new milk.

A. M. H. desires to know if a small quantity of saltpetre mixed with cream would prevent white curdy specks in the butter. I have

never had any in mine, so I cannot tell. My two cows are pure Alderneys, and their butter is hard and fine grained as beeswax. If the cream is strained while warm through a cheese strainer, it is said that all the curdy specks will be taken out. If cows are fed with a tablespoonful of saltpetre once in two months, mixing it with shorts or meal, all tendency to garget is prevented. This I know by experience, and for garget it can be given every other night until the cure is perfected.

O. S. Bliss commences his last article by saying that as I claim my womanly prerogative of having the last word, he shall grant it to me after a *few more words*, which, man-like, he increases into tens of tens. I offered to put my butter by the side of his—i. e. butter made by his own hands, and not by his neighbors, nor do I intend to send my butter to Maine for the trial. I make butter now for my own use only, and because I like to do it, and have done it for twenty years, for the pleasure of it. With all due deference to his superior ability, I must still agree to disagree with him, but am certain that we should enjoy a pleasant conversation should we ever meet.

As to "infinitesimal doses." I consider two tablespoonfuls of saltpetre to weigh two ounces; this added to three gallons of cream, is in the proportion of two ounces to twenty-four pounds. As a "pint's a pound all the world round," it will make two ounces in three hundred and eighty-four ounces. Is not that a minute quantity—worthy of homœopathy?

S. O. J.

FOOT AND MOUTH DISEASE.

S. L. Goodale, Esq., who was the delegate from Maine at the recent convention of Cattle Commissioners at Albany, communicates to the *Maine Farmer* a report of that meeting which embraces some facts which we have not seen elsewhere stated. He says:—

How the disease was introduced into this country and first disseminated did not clearly appear; plenty of knowledge probably exists, but most of it is only in the possession of some who have large private interests at stake, (in the reputation of costly herds of high-bred animals,) or of the veterinary surgeons employed by the owners of such herds, and who are as close-mouthed as physicians are about disagreeable facts which come to their knowledge in the sick room, or priestly doctors, regarding the secrets of the confessional.

It was shown that the cattle yards at Albany are infected, and that all the cattle, a thousand a day or more, which stop there for feed or sale are liable to take the disease and to disseminate it in all directions. As yet no inspection is enforced there, though the Legislature has been petitioned for some action.

There was no doubt in the minds of the members of the commission that the idea that the disease was the old fashioned Foul-in-the-Foot, was a serious and dangerous error, or that those who made light of it were doing much harm.

The severest case mentioned was that of a farmer in Massachusetts who had 39 cows highly fed for the production of winter milk, and ten fattening beasts. This farmer, although he lost by death only two or three, deemed his actual loss greater than if he had killed and buried every animal on his farm before being attacked; as he could, in such a case, restock his farm, and resume his milk business. The injury to his beasts by loss of flesh, broken udders, lameness, and the care of treating them, he considered equal to their value at the outset—say, upward of $4000. But in the great majority of cases, this disease had been much lighter, and the total loss and damage was variously estimated at from not more than a tenth in the lightest, to a third or half in the case of herds more seriously affected.

Plenty of evidence came out that the milk is dangerous to human and brute health. One man related of his own son, a lad of five years, that, by taking the milk of a cow, not then known to be affected, but which soon afterwards showed the disease, the mouth became lined with blisters, bad cracks appeared on the hands, and he was feverish and quite ill.

In Connecticut sheep had contracted the disease; and in New York dogs fed with the milk in some cases had it, and in some escaped the disease.

The extremely contagious character of the malady, and the ease with which it is communicated, was abundantly shown; a single illustration here will suffice. A drover bought healthy cows in New York, and drove them homeward to Massachusetts, and sold on the way. At Albany they were in the yards, and contracted the disease, but did not show any signs of it, nor was the fact known to the drover, until his arrival at home. Several hours after these beasts had passed on a certain road, the owner of a herd living there drove his own herd a short distance over the same road; they never saw the affected beasts, but in four days they were all lame, and drooling at the mouth, and all the cows sold on the route also carried the disease where they were taken.

—The farmers in southwestern Vermont, on the line of the Harlem Extension railroad from Rutland to Bennington, are rejoicing in the prospect of a daily milk train for New York city, which will largely enhance the value of those splendid dairy farms on the route. We do not see why it cannot be done, greatly to the advantage of both producer and consumer.

THAT LINE FENCE.

BY CLYDE HAWTHORNE.

Old farmer Smith came home in a miff
From his field the other day,
While his sweet little wife, the pride of his life,
At her wheel was spinning away.

And ever anon, a gay little song
With the buzz of her wheel kept time;
And the wrathful brow is clearing now,
Under the cheerful rhyme.

"Come, come, little Turk! put away your work
And listen to what I say;
What can I do, but a quarrel brew
With the man across the way?

"I have built *my* fence, but he won't commence
To lay a single rail;
His cattle get in, and the feed gets thin,
I am tempted to make a sale!"

"Why John, dear John, how you do go on!
I'm afraid it will be as they say!"
"No, no, little wife, I have learned that strife
In a lawyer's hand don't pay.

"He is picking a flaw, to drive me to law,
I have heard that he said he would;
And you know long ago, the law wronged me so,
I vowed I never should.

"So what can I do, that I will not rue,
To the man across the way?"
"If that's what you want, I can help you haunt
The man with a spectre gray!

"Thirty dollars will do to carry you through,
And then you have gained a neighbor;
It would cost you more to peep in the door
Of a court, and much more labor.

"Just use your good sense—let's *build* him a fence,
And shame such thoughts out of the fellow."
They built up his part, and it sent to his heart
Love's dart, where the good lay mellow.

That very same night, by the candle light;
They opened, with interest, a letter;
Not a word was there, but three greenbacks fair
Said the man was growing better.

SHEEP HUSBANDRY.

At the late farmer's meeting at Lebanon, N. H., a paper was read by Dr. Mason on Sheep Breeding. As reported by the *Mirror and Farmer*, he expressed the opinion that too little care was given to sheep management. We should continually select for breeding the best animals of the breed we preferred. He would not cross coarse and fine wooled animals, for the wool would not be of value for either grade. The natural tendency of a flock is to deteriorate. He would introduce a new buck occasionally to increase the stamina of the flock.

N. B. Safford, of White River Junction, favored the Atwoods. Thought they stood the climate well, and gave seven pounds of wool.

James Worthen thought he could raise wool cheaper than grease. He went for mutton sheep.

Mr. Miller was keeping his sheep without profit, hoping for better times for fine wool. Coarse wool had been abandoned here. He held to keeping sheep warm in barn cellars, and shut up in storm and cold. Has fed roots. Beets regarded as best. American Imperial sugar beet preferred.

James Wood said, farmers had made sheep raising a living business till now. He thought this section better adapted to sheep than cows. Our pastures are too far away for cows. Have to feed out all we can raise to make them profitable. Farms can be kept up better with sheep. Cows reduce pastures, sheep improve them. Fluctuation in wool he attributed to tinkering with the tariff. With a steady tariff wool would pay at 45 cents. Manufacturers demand raw material free and duty on fabrics. This he regarded as an injury to farmers. He had tried Merinos and approved them. He had sheep that had lambs in cold weather, and lost only one, which got out of the pen. Does not wash. The rule of shrinkage is one-third, his shrunk one-fifth.

Dr. Mason advised the breeding out of all contaminated blood from fine wool sheep. Don't mix in coarse wools.

Dea. Buffum spoke of localities where they make a point of raising lambs for early use, and the results of various methods practiced there.

Mr. Noyes, of Lebanon, said the farmers of this town had got their wealth by keeping sheep and they would not give them up. They keep a few cows, and should keep the best. Sheep much more profitable.

Mr. Palmer, of Orford, was not ashamed of fine wool sheep. The day for breeding them is not past. There has been a great deal to discourage, but much also to encourage. He would buy the best sheep when they are low. Flocks that have real merit ought to be saved. Somebody will reap the profit of persevering, and be meant to do it. If he sacrificed his property, the last piece he would own would be a fine wool sheep. He proceeded to demonstrate the profit of keeping sheep, even with wool at 40 cents. He was very enthusiastic in his opinion of Merinos, and often brought down the house by his well put commendation of the fine wools.

For the New England Farmer.

EFFECTS OF AGRICULTURE ON HEALTH.

Read before the Concord, Mass., Farmer's Club, Jan. 26, 1871, by FREDERICK G. PRATT.

It is the common opinion among all classes of society, that the cultivation of the soil is favorable to long life, and most of the dwellers of the cities look forward to the time when they can sit under the shade of their own trees, and enjoy a sense of rest, independence, and comfort, not to be found in city life. We know that few ever come to realize these dreams, and we know how many young men brought up on the farm, leave it as soon as possible, for the more bustling life of the city; but do we not also know, that many of these,

later in life, return to the country, worn out and broken down, to lay their bones in peace near their early homes?

Farmers are supposed to live longer than those of most other occupations, but statistics seem to show this is not fully so. Travellers and natural philosophers average the longest lives, and even clergymen, with little exercise, comparatively, live longer, as a class, than farmers. This should not be so, and perhaps we may find what is the reason for it, and the remedy.

It is found that incessant thinking on any one thing tends, more than anything else, to unhinge the mind and body. Travellers use all their powers—their eyes, feet, brain, and all, and thereby give a healthy action to all parts. On the contrary, book-keepers, writers, and all people of "one idea," strain their one idea to the destruction of the rest of the body.

The great mass of farmers seem to be given to this one idea. It is dig, and grub, and toil, day after day, year after year, with the mind never raised above this every-day toil. The remedy, to me, is plain. We are to look beyond our cattle, our potatoes, our grass, and take a portion of our time for searching out the causes and effects of the various operations in which we have a hand. *Book Farming* gives us a chance to work our brain, while our hands do the mechanical part. This is where I think our Farmer's Club does the most good. We have done our day's hard work, and now comes in play another set of muscles, more delicate perhaps, but for that reason more important to be exercised. It enlarges our minds, and gives a healthy action between the brain and hand, which will not be found when either is used to excess.

Prof. Pierce, of Cambridge, who has given much thought in this direction, remarks, as the result of his observations, that, "taking classes in the average, those are the first to die who are the dullest and most stupid, while, as a general rule, those who exercise their brains most constantly, thoroughly, and faithfully, are the longest lived." This is in relation to students of Harvard. It is the same among farmers.

It is noticed in prisons, that many of those sent in for long terms, or for life, become idiotic, but of these, few are to be found who have had a liberal education or mental culture in any direction. In foreign political prisons, highly cultivated persons have spent the greater part of their lives in the darkness and solitude of a dungeon, and even then come out in their old age, with mental and physical activity unimpaired. Mary, Queen of Scots, lingered eighteen years in prison, and then went forth to the block with her full vigor of mind, "while an uninstructed farmer," says Dr. Hall, "who can feed on the fat of the land,—who passes near three-fourths of his existence in the blessed sunlight, greedily drinking in the luscious out-door air in all its purity, with no restraint of bodily liberty, but abandoning himself to the dull routine which comprises about nothing but to work, and eat, and sleep,—often finds in less time than fifteen years, that vigor of mind and health of body are both on the wane."

It is no longer considered all sufficient for a farmer to have a vigorous frame and intelligence enough to skilfully use a tool or drive a team. There is something further. "Remunerative farming is the reward of those who have made themselves familiar with the analysis of soils, who have some knowledge of botany and vegetable chemistry, and who have given some study to ascertain the surest way of obtaining the best seeds, and the best breeds and who have 'method in their book madness,' in the selection of scions, and grafts, and roots, and plants. Such not only make money by farming, but have a positive delight in their labor, and in waiting for results; for one of the sweetest sensations possible to the human mind is the development of useful facts, as the result of trials and experiments."

This is what is wanted to lengthen a farmer's life, and add increased enjoyment to such a life,—more time to be taken from the hand and added to the mind.

For the New England Farmer.

MILLET AND HUNGARIAN GRASS.

Mr. Editor:—Every one familiar with agricultural reading knows that Dr. Loring is decidedly down on green corn as a soiling crop, and recommends the use of millet instead,—sugar millet he calls it, I suppose to distinguish it from Hungarian grass.

Last spring, after planting as much sweet corn for fodder as I thought I could use in a green state, and having a half acre of land to spare, as an experiment I sowed it with millet and Hungarian grass, one-half of the lot to each, using a bushel of seed to the acre. On account of the difficulty of curing it, I have never considered corn fodder a very good crop to raise for winter feeding. I thought as millet could be easily dried, a surplus of it would be better than a surplus of corn fodder. In spite of the dry weather I had a very good crop of both kinds of the millet. The Hungarian grew much the finest, and I should think would require less seed per acre than the other kind. I think a bushel of either not too much for an acre, and of the millet I would sow five pecks. It was cut as soon as it had reached its full height, and before it was in full blossom, which I thought should be the time to make from it the best quality of hay. The day it was cut I took a small load to the barn, keeping the Hungarian and millet separate, that I might know if the cows had any preference for either. I could not see that they had any choice, for they could not be made to eat either kind. It was all

dried for winter use and stored on a scaffold, which was afterwards filled with rowen so that the millet could not be reached till midwinter. When it was uncovered I gave every animal in the barn a feeding of it, and not one of them seemed pleased. After smelling and poking it over with their noses awhile, some of them began to eat, while the others looked straight at me till I left the barn. Since then I have fed it occasionally, a little at a time, and some of the cows seem tolerably well suited, while others will eat but very little. I do not see how any one can estimate it equal in value to English hay unless the hay is quite inferior. I presume if cattle were fed on poor bog hay, oat straw or dry corn husks, they would like a change to millet, and if English hay should stand till over ripe, it might not be relished by the cattle as well as early cut and well cured millet. I intend to give it another trial the coming season, not as a soiling crop, but for winter feed for dry cows and young stock.

The severe drought of last summer killed the roots of grass on thousands of acres of mowing fields. An extra effort should be made this year to raise forage crops, and a due proportion of millet or Hungarian grass will undoubtedly come in well as a change from poor hay and straw.

A. W. CHEEVER.

Sheldonville, Mass., Feb. 21, 1871.

For the New England Farmer.

WASHINGTON TERRITORY.

I used to be much interested in the NEW ENGLAND FARMER in my native home far up among the hills of New Hampshire, and seated here alone in my cabin to-night, with the wind and wolves making wild music outside, it occurred to me that perhaps some of your readers might be interested in a letter from me.

I left New Hampshire in October last, passing through Chicago, Ill., and over the Rock Island and Pacific railroad to San Francisco.

Of the scenery and incidents of the trip I need not speak, as the one has often been described and published, and the other was nothing unusual in so long a trip. There is one thing, however, I wish to say that I have never yet seen in any description of this great national thoroughfare.

Every one knows that the road passes over three or four ranges of mountains, necessitating heavy grades, tunnels, tressle work, &c., and the question was often asked East, and is in this part of the country, Is the road safe and smooth?

A great deal of the road would compare very well with any other road in the States, and *the roughest part is better than an average* of the Grand Trunk railroad running from Port Sarnia to Prescott. We averaged twenty miles an hour from Omaha to Sacramento, while from there to San Francisco we made nearly twice that.

I stayed one night only at that place. And here I must pause to remark that I have been in nearly all the large cities in the East and North-west of the Union, and have had some little experience with "hackmen and omnibus drivers," but San Francisco "carries the palm." On landing an hour after dark, it did seem, for a few minutes, as if

> "All the fiends from heaven that fell
> Had raised the banner-cry of hell,"

as Scott has it, shouting, yelling, screaming, swearing and praying, till Babel would have been silenced and awe-stricken.

The next day I went on board the splendid side-wheel steamer "Oriflamme," and in the rays of the setting sun saw the Golden Gate slowly settle down and disappear behind the waste of waters. I discovered when about fifty miles out that I was *not a sailor*; in this, however, I had the sympathy of other passengers.

The fog was so dense at the mouth of the Columbia we had to "lay off" several hours, and when we did get in and tied up at Astoria, we could not see the town. This, however, was very little loss, as there is not much to be seen, I am told, and from appearances I had no reason to doubt it.

Towards evening the fog lifted a little and we steamed up the river. There were flocks of swans that covered acres, swimming around, with countless thousands of wild ducks and geese.

We got aground at the mouth of the Willammette (accent on the second syllable) and had to wait for the return of the tide, which is here some three feet. On the maps Portland is placed at the mouth of this river, but it is twelve miles up on the left hand bank, and contains many fine buildings and about ten thousand inhabitants, made up, like all towns on this coast, of the "five races of men." Here is "John" and "Ah Sing," with their "Josh house" right alongside of Protestant houses of worship, presenting a singular and painful spectacle to a reflecting mind.

This valley is very rich in agricultural products of all kinds. Immense herds of cattle and horses used to be raised here, but the country is settling so fast that they are beginning to seek pasturage in the wilds of the mountains. I found a friend waiting for me in Portland, and after a few days spent in seeing the town and procuring an "outfit," we took the steamer at five in the morning for the Dalles, once a very lively place, one hundred miles further up the Columbia, but now presenting rather a deserted appearance.

The scenery where the Columbia breaks through the Cascade range is very bold and beautiful. Everything is on a magnificent scale. I was asked to guess at the height of a rock standing alone and looking like an old-

fashioned sugar loaf somewhat enlarged. I looked at the mountains and then at the rock, and replied, "about three hundred feet." Imagine my surprise on learning it was three times that height.

At The Dalles we procured horses, and strapping on our blankets, fry-pan, bacon and hard-tack behind our saddles, we entered the ferry boat and were soon across the river in Washington Territory.

The morning was fine, the scenery charming. A mile carried us beyond civilization, and ten miles brought us to the foot of Klikatat mountains, a bald ridge, so far as timber is concerned, but covered with bunch grass that affords a fine summer range for stock, as there are plenty of springs and creeks of pure water. The ascent was very steep and we were some two hours in getting over. Ten miles more of ride over a fine rolling county, also covered with bunch-grass, and we struck Klikatat creek. Here we unsaddled and picketed out our horses to graze, while we supplied our inner man with "bacon straight" and hard-tack (bacon in this country means *smoked fat pork*) and then lay down on our blankets for an hour's rest, with "none to molest or make afraid." Saddling up we crossed the creek, and just at dark rode up to the Block House.

This is a log house or fort built during the Indian troubles of 1855–6, but at present occupied by an Irishman, and used as a stock ranche. We were welcomed with genuine Irish hospitality, and considerable deference was shown us by our host and several other men who were stopping there for the night. We were in doubt a little as to the cause of this, but found out afterwards that they had set us down as a couple of *Methodist preachers*.

Seated around the fire-place that evening, we listened to many a wild tale of savage warfare and legends connected with the early settlement of the country. They call this country settled; but this was the first house we had come to after leaving the Columbia, and are told it is forty miles to the next house. A Yankee would think there was room for a *few* more settlers.

In my next letter I will take you over the mountains, and as there was a battle fought here in 1855, I will give a few incidents of Indian warfare. G. S. P.

Yakima, Washington Ter., Jan. 18, 1871.

VERMONT BOARD OF AGRICULTURE.

The following outline of operations, so far as relates to agriculture, has been adopted by this Board.

1. To supplement other organizations for similar objects, in the State, so far as we may do so and preserve our individuality, but to supplant nothing.
2. To co-operate with county and town societies and through them secure some uniform and systematic plan of work throughout the State.
3. To suggest to dairymen, farmers, and stock breeders certain definite experimental problems.
4. To procure analyses of all fertilizers (natural or artificial) for sale throughout the State, and publish them in full with their relative and commercial values; and to secure protection against frauds by legislative or other action.
5. In accordance with the provisions of the bill, to hold at least one annual meeting, at some central point in the State, for the purpose of discussion and the reading of papers.
6. Under the auspices of the local societies, and co operating with them, to hold meetings of the board from time to time, in the various counties, of the same general character as the State meetings.
7. To publish from time to time the more valuable papers presented, together with statistics collected, and distribute the same among the people separately or in the annual report.
8. That the name of the officers of all county and town Agricultural and Horticultural societies, and farmers' or dairymen's clubs, throughout the State, be obtained by the Secretary, through whom the papers from time to time printed may be distributed.

The Board was to meet at St. Johnsbury in March, for reading papers, discussions, &c.

HON. JOSEPH W. COLBURN.

The death of this gentleman, which occurred at his residence in Springfield, Vt., February 17, has been briefly announced. He was a representative of a class of farmers that we are unwilling to believe is leaving the soil of New England,—a class that, commencing life as laborers, buy farms of their own, and while cultivating the soil find time to cultivate their own minds, and at the same time acquire pecuniary independence. "Living in a quiet and unostentatious way," says an intimate friend of Judge Colburn, "there was nothing extraordinary to mark his life." But does not this "quiet life" afford an example and a lesson of encouragement to young men which an "extraordinary" life, however brilliant, could never afford?

"His early life," says the *Rutland Herald*, "was a severe and laborious one, and he often wished for the neglected and wasted opportunities of more favored youths about him. With no resource but his industry, energy and economy, he reached the goal he early placed before himself—pecuniary independence and an honorable name."

Joseph W. Colburn was born in Claremont, N. H., on the 14th of April, 1800. His parents had been reduced to extreme poverty by misfortunes, before his birth. At the age of ten years he was thrown upon his own resources for a livelihood, and after he was fifteen years of age appropriated all his earnings, excepting those needed for his own board and scanty clothing, to aid his distressed parents. At the age of twenty-two his father died, after which for seventeen years he supported, with the assistance of a younger brother, an aged and infirm mother, when she too was gathered with the dead.

Having no money or opportunities for gaining an education, except those afforded by the district schools of that day, he availed himself of these privileges for two or three months in each year, until he had attained his eighteenth year. His natural taste for reading, and great desire for knowledge, induced him to read carefully all the books within his reach; and at a very early age he devoted his first earnings to the purchase of an interest in a public library. His life affords an eminent example how the public library will influence the life and shape the character of a youth struggling with poverty, but thirsting for knowledge and culture.

Strongly attached to agricultural life he has devoted himself to farming, and has long been known as one of the most successful farmers of the State, never having forgotten his early reading of that renowned maxim, "Time is money, economy is wealth."

He settled on his farm on the banks of the Connecticut, in the town of Springfield, in 1838, and to which he had given the name of "Mont Vale."

While steadily following the pursuit of a farmer he has often been called upon to occupy honorable positions, in the town, county and State, all of which he filled to the acceptance of the people. He was three years a Senator from Windsor county. As chairman of a special committee of the Senate he made an able report upon the intricate question of tariff. He was one of the Assistant Judges of the Windsor County Court for four years. He was a member of the Council of Censors in 1869. He was one of the founders of the Exchange Bank at Springfield, and was its President from its organization until it was supplanted by the First National Bank of Springfield, in which he was a director at the time of his death.

Judge Colburn, as an agricultural writer, was well known, and his articles in the public journals attracted wide attention, as they always gave evidence of a discriminating mind and afforded profitable suggestions. His articles in 1866 and 1867, upon "Protection to American Wool Growers," were very generally read and were of great influence in shaping the national legislation upon that subject.

Judge Colburn was one of the founders of the State Agricultural Society, and has been one of its directors from its first organization, now twenty years, and for the last ten years its treasurer. He was its President in 1865 and 1866. In his death the Society loses another of its earliest and faithful friends and officers. Keyes, Hammond, Colburn, co-laborers for more than a score of years, have followed each other to the tomb in rapid succession.

Our personal associations with Judge Colburn for the last eight years have been frequent, and we are compelled to testify our respect for his ability and character. He was a man of earnest thought, of comprehensive scope of mind, of steady and unerring judgment, of inflexible integrity and unswerving decision of character. He was rather marked as a man of large general powers, than as a sparkling writer or brilliant talker, as an honest, independent fearless public man. We bear our emphatic testimony to his sterling worth. Cool, cautious, conservative in his general tone of mind, perhaps he failed at times to win the approval of the ardent and enthusiastic. But if he was sometimes slow to move, he always moved in a good direction. He was never cajoled, or seduced, or corrupted into any crooked ways. His path was broad and straight forward, and always illumined by the light of a manly intellect and unquestioned honesty of purpose.—*Rutland Herald.*

—An eighty acre farm in Iowa is carried on by twin sisters, twenty-three years of age. A boy sixteen years old is all the male help they have.

FARM OF N. B. SAFFORD.

About ten years ago Mr. Safford, one of the members of the Vermont Board of Agriculture, bought a farm near White River Junction for $10.75 per acre. A correspondent of the *Vermont Farmer* says that the first year the farm was let to an old man who cut seven loads of hay and tried to winter two cows and a pair of three-year-old steers so small they were called "Fergurson's rats." Some hay had to be bought to winter them out. This farm has been enlarged by additional purchases to four hundred and fifty acres, and cost $6,500, and is now doubtless worth over $20,000. The land is mostly pine plain, but it tends to clay rather than sand, and is retentive of manures. The farm was covered with pine stumps, at the time of its purchase. These have been removed and put into fences, and the land judiciously tilled. And now the stock consists of about thirty head of cattle, eighty sheep, four or five horses and perhaps a half dozen pigs, with abundance of fodder for their winter sustenance, stored in the old barn 30 by 40 feet used for horses, and one large barn 120 feet long by 55 wide, 18 feet posted, with a cellar ten feet deep.

The floor of the main barn is through the length of the barn, and is nearly on a level with the eaves, being entered from a long ascending plank driveway. This makes it very easy to unload hay and grain as they go into deep bays each side. Instead of backing the wagon out from the floor, there is a simple yet ingenious way of turning it round. About the middle of the barn the floor is extended out to the right. Here, on a corner post by the floor, hangs a rope that is made fast to the off hind wheel, and as the team backs, the hind end of the wagon swings out toward the side of the barn until the horses can turn. When they start, the rope still holds and the wagon is drawn into a straight line from the post to the horse. The rope is then cast off and the team driven out. On this side of the floor is the feed cutter. The cut feed drops to the floor below, and is fed by pushing it with a rake head into the mangers of the stables each side.

A portion of the stock are thoroughbred Shorthorns from animals purchased in Kentucky two years ago by Messrs. Safford, Russ & Craft. The bull "Kentucky Duke," two years old, is a fine one with many good points; large size, quiet disposition. He took the first prize at the State fair at Burlington, as a yearling. "Alice 2d" is a really fine heifer. The cow "Fancy" weighed 1718 pounds a week after calving. "Nellie Grant" bred by Mr. S. gained three pounds per day until five months old, when she weighed 618 pounds, and at 18 months weighed 1150 pounds.

The method of cultivation pursued is to plough in the fall, as a better yield of corn has been obtained on fall ploughing, than when part has been left over till spring. Thirty acres were ploughed last fall. There are also ten acres in winter wheat. The manure is worked with the surface soil and is in a fine state, as the coarse fodder is cut with a machine. Most of the land is hoed one year, the corn crop being a leading one. Twenty acres will probably be planted to corn in 1871.

In seeding to grass, timothy and clover are both used, and special effort made to put the soil in fine tilth for seeding. On two pieces the fertility had been improved by ploughing in growing crops. One piece of clover ploughed in was followed by a crop of wheat, twenty-seven bushels per acre.

Another piece had been cropped by a tenant until buckwheat would not grow more than six inches high. In 1869 it was ploughed and sown to buckwheat, the feeble growth ploughed in when it was at its best, and another crop of buckwheat sown. This also was turned in and winter rye sown. This was turned in in 1870, and was followed by another crop of buckwheat which was a heavy growth and was turned in. In 1871, another crop will be put in and the result of this method will be ascertained. The soil of this piece is rather light.

The pine grove that first tempted Mr. Safford to buy the farm has been thinned out and is making a rapid growth, and will be valuable property in years to come.

For the New England Farmer.

PREMIUMS FOR GROWTH OF FOREST TREES.

I noticed by an editorial article in the FARMER of November 12, that you do not think it necessary to encourage, by premiums, the cultivation of forest trees.

The propriety of offering premiums for the encouragement of *any* branch of farming is a question I do not propose to discuss at this time. I only wish to say that I believe that in many sections of New England, wood and timber are among the most profitable crops produced by the farmer. One of the reasons why it is profitable, is because it grows so spontaneously. I could show you a field of three acres, over which I rode horse to plough among potatoes thirty years ago, that is now well covered with a growth of white pine trees that look very much like saw logs. I am sure that the trees are the most profitable crop the land ever produced.

At the time the lot was last ploughed, there stood near the northwest corner a few old pines. These bore seeds and the wind scattered them over the field. On that part nearest the old trees the young pines came up thickly and they have grown straight and smooth. On that portion farthest off from the parents, the growth is quite thin and the trees have too many limbs to ever make the best of timber.

I could show you hundreds of farmers in the towns of Franklin, Bellingham, Wrentham, Attleboro', Walpole and Foxborough in this State, and in Cumberland and Smithfield in Rhode Island, who would find it very difficult to pay their taxes were it not for their annual crop of wood and timber or charcoal.

On such land as many of us find ourselves located, we should have little work to do through the winter months were it not for the wood lots.

If our lands were all as good for dairying as some in the Middle States, perhaps the care of cattle through the winter would give sufficient employment, so we should not eat up in winter all we had saved in summer. With such land as we have, undrained swamps, sandy plains, and rocky hills, let us be very thankful that we are *obliged* to "fight against the encroachments of the forest" on cultivated land. Let us cultivate a few of our best acres well, and let the balance of the farm come up to wood if it will, and even encourage it by ploughing the old pastures and sowing seeds of the pines and birches, and perhaps also chestnuts and oaks, in some localities.

When people ask me what to do with old pastures that are all run out and are coming up to pines, maples, or birches, I tell them to stop mowing down the brush, and encourage the growth of the valuable wood.

I know an old farmer who is quite handy with a slate pencil, who claims that a young white pine three feet high in a good location is worth a "ninepence" to grow for timber. There is room in an acre for a great many such ninepences.

Now that portable steam saw mills are coming into such general use, it does not so much matter whether a wood lot is near a good water power as it did formerly. Do not discourage the growth of forest trees, for they may be counted as the best friends of many a farmer.

A. W. CHEEVER.

Sheldonville, Mass., Dec., 1870.

REMARKS.—The article alluded to by our correspondent has been criticised by a contemporary in a spirit and tone that precluded any notice on our part. To our correspondent we would say that we did not intend to "discourage the growth of forest trees." We were simply questioning the expediency of offering such large premiums as that of one thousand dollars, the award of which sum to a single individual we were commenting on. The idea expressed by Mr. Cheever, that timber is profitable "because it grows so spontaneously," was the basis of our remark that we "think there is no great need of special encouragrment of tree planting among us." On most of our New England soil, trees spring up spontaneously, if permitted to do so. They are thus springing up all over the country. We rejoice that it is so. We are thankful that "our lines" were not "cast" in a treeless country; that our hills, unlike those in portions of the old country, clothe themselves with foliage, and that, generally, without the laborious process of planting. We say, generally; because we believe there may be some pine plain and other "free" soil land so far exhausted by tillage as scarcely to be able to start a tree unassisted, and where it might be advisable to plant the seed. Hence while we fully endorse the suggestions of our correspondent as to the expediency of growing and caring for forests,

we still doubt the necessity of appropriating the funds of our agricultural societies to the payment of large premiums for plantations of forest trees. We recently owned a portion of a lot of wood of saw-log size growing amid corn hills which distinctly marked the rows of a field cultivated "both ways," some fifty years ago, which though entirely spontaneous in its growth, could hardly have been improved by artificial cultivation, or a thousand dollar premium.

For the New England Farmer.

FLOWER GARDENING FOR MARCH.

"Forth from a southern covert, warm and deep,
Came Spring, and looked old Winter on his front austere,
And lightly stept about like one in fear,
And where she trod the flowers began to peep."

The "wild, tempestuous" days of March are come, and nightly the howlings winds commence their advent; but we give them kindly greeting,—they have a mission to perform, a work to accomplish that must not be left undone. The sun has greatly increased in warmth, and it comes to us earlier in the morning, and lingers more lovingly towards evening. The winter may not be "over and gone," nor "the time for the singing of the birds" arrived; nor is "the voice of the turtle heard in the land," but we know that all these pleasures are close at hand.

As we turn over the pages of the florists' catalogues we mark the varieties we would *like* to possess. Then, when the last leaf is turned, the last illustration admired, we foot up the list. Its sum total amazes us. That will never do! So we go over the list again, and strike out names here and there, and again reckon its amount. But, alas, that is more than our slender resources will permit us to enjoy. So, with joyless fingers, we erase all but the indispensables.

We must have Pansies; their bright faces cannot be given up; their glorious purples, yellows, bronze and mottled colorings are truly indispensable. They cost high—fifty cents per package for the choicest kinds, and we cannot afford to plant any others. We cherish our floral pets with kind and loving care, and we must have the best that can be raised. Asters are also essential. Think of a September without them! Twenty-five cents per packet is needed for one mixed variety. Balsams are indispensable, Smith's Prize we *must* have. Another twenty-five cents. Japan Pinks are also a necessity, and they call for twenty cents.

So the list increases, but the flowers are all *essentials*. No garden should or could be planted without them, and economy must be practiced on some other department; not so many new dresses purchased; old gloves remended; ribbons, tempting ribbons, passed by. Can their silken glories equal the perfect colorings of the flowers God has given us? No, indeed; one small bed of Pansies is worth all the ribbons one could desire!

It is too early to plant flower seeds in New England as yet, unless some tender darlings are cherished in boxes or in hot-beds. Verbenas are worthy of being forced, and if the seeds are soaked over night in warmish water, and then planted in a light, sandy loam, they will flourish finely, and blossom by the middle or last of June. Often two or three dozen plants of splendid colors can be produced from a twenty-five cent package of seeds, and one dollar per dozen plants is the least price for which they can be procured from a florist. Seedling verbenas are profuse bloomers, and will be covered with flowers until the frost. No plant gives more satisfaction than the verbena, if rightly cultivated. For several years we had not attained to our usual success, so last summer we asked for a small bed in the vegetable garden, though we do not like to see beautiful flowers in close proximity to cabbages, melons, &c. But we were determined to have fine verbenas, so the bed was planted with a dozen fine plants from a green-house, and an iron tablespoonful of the Grafton Mineral Fertilizer was dug around each plant. The result was glorious! Such a blaze of color no other garden could boast in all the village, and a large bouquet of them was gathered as late as October 19th.

Our Window Gardens

require close attention during this month. If our readers have followed all the minute directions given in these articles, some of their plants will now be in full bloom, while many others are budding, and will soon be a glory. They must have a good compost to grow in, plenty of sunlight, cleanliness, all the fresh air that can be given at noonday, when the sun is hot, and a proper amount of moisture. If these important requisites are not attended to, success will not crown your efforts.

Watering is one of the most important points in plant culture. When the surface soil is dry, give a copious supply of warm water, so that the roots can drink it up plentifully, then pour away what remains in the saucer. Nearly every plant is injured by standing in water. Calla Lilies and Lobelias are exceptions to the general rule. Place the pots as close to the window glass as possible, and keep the glass clean. All the leaves and branches will turn to the health-giving sun; so be sure and turn the plant a little daily. If your stand is so full that this cannot be done easily, turn them entirely round every third or fourth day. If you have not done this during the winter, turn your plants after reading this, and see the change you will produce in their appearance. Want of light and too great a supply of warmth at night are the two causes which produce

lanky, ill-shaped, sickly plants. Plants growing in gardens are always cooler at night than during the day, and those growing in the house should also be cooler. But many parlors are much warmer at night than by day. Gas or kerosene lights and more people in the room increase its temperature, and at bedtime, for fear they should freeze, the heat of furnace or stove is increased, thereby injuring many plants. It is well to drop the curtains on them, and thus shield them from artificial light. They require darkness at night. Gas is a prolific source of failure in raising house plants,—it vitiates the freshness of the air. Never be afraid of keeping the windows open as much as possible during the warmest part of the days in this month. If the mercury rises above fifty and the sun shines full on the plants, there will be no danger of chilling them at noonday, but do not expose them to a draft.

As dust is one of the greatest drawbacks to successful window gardening, we must constantly battle with the insidious foe which sucks away the life blood of our darlings. If our plants are not so arranged that they can be showered twice a week with a fine rose watering pot, a sponge or a small paint brush must be substituted. If the brush is used, it need not be moistened until the dust is brushed off, and then each leaf can be washed with it. As soon as mild showers come, put out all the pots, baskets, &c., and they will be greatly benefited, far more than by any artificial showerings.

Chinese Azalias are in their glory now,—their pure white, red and rose-colored flowers are very lovely. They have always been treated as green house plants, but are now proved hardy in and about New York city. At Flushing they bloom profusely out of doors, both the double and single varieties. *Azalea amœna, rosea,* and *splendens* have also been proved hardy in sheltered locations, and very likely many of these beautiful flowers could be made to flourish in out-door culture about Boston.

Shrubs.

It is time to think about "Shrubs." Many of them are very early in awakening in the spring, and should be planted in good season. The Dwarf Flowering Almond is an old fashioned shrub, but one that is always cherished by us, and lately we fear that it is not half appreciated by flower lovers. Its flowers appear early in the spring, even before its leaves are grown—flower buds and leaves starting forth at once, and their rosy bloom is always lovely. The Double Flowering Plum—often called the White Flowering Almond—is also very desirable. The Double Flowering Peach and Cherry are very beautiful, coming so early that their profuse flowers have few out-door rivals.

The Double Flowering Blackberry is an ancient flower, but none the less appreciated. Its blossoms look like miniature roses. They are very hardy, and are valuable to train over rocks or against unsightly walls; though like the common blackberry, the old stems must be cut away, for the flowers are produced upon the last year's growth alone. The Bridal Rose, so well known to many of our readers, is but a variety of the Double Blackberry, and is a native of Mauritius, and is a green house plant, while our friend will grow and bloom in the rockiest nook, and with little culture.

Spireas are familiar to all. Where the Lilac and the Syringa flourish, they are found, but now their name is legion, and yearly the florists offer new beauties for our selection—among them are *Spirea levigata*, very showy, with spikes of flowers; *Spirea thunbergia*, with delicate, graceful foliage, and pure white flowers; *Spirea bella* is of dwarf growth, with bright pink flowers; and not to be outdone by other variegated leaved plants, there is offered *Spirea folia variegata*, whose rich, dark green leaves possess a pale bright yellow marking through the centre. *Spirea humboldtii* is a hardy, herbaceous species, with elegant foliage and numerous feathery stalks.

The *Tartarian Honeysuckle* is always beautiful, whether in bloom or covered with its scarlet berries. It is common, to be sure; but what God has made we are not to call "common." It needs no care, after a root or even a slip is set out, and both the white and pink varieties blossom early in June. It should be seen in every yard and lawn.

Deutzias from Japan, are also lovely and bloom profusely, but they should not be pruned, as the flowers are formed upon the wood of the previous year's growth, and every twig that is cut off destroys so many blossoms.

Let us all hope that in the coming summer more flowers will bloom than ever blossomed before, and more hearts be awakened to a sense of their pure loveliness and beauty.

S. O. J.

For the New England Farmer.

THOUGHTS AND SUGGESTIONS.

Drought—Drilling in Wells—Cattle Gnawing—Stump Puller—Bone Meal on Meadow Hay—Marketing Farm Produce.

It has been a long time since the readers of the FARMER have heard from me, for which many months' sickness must be my excuse.

An unprecedented drought the past summer, with only two faint attempts at a January thaw, has left many wells yet dry in this section of country; some families the past fall having to draw water two or three miles for cattle and sheep, for want of a sufficiency of which many have died. Had not science given us steam grist mills, a resort to the old corn-pounding mortars of old colonial days would have been inevitable.

I have a well fifteen feet deep, mostly blasted in the solid ledge a century since, that in every severe drought failed until twenty-six

years ago, when I caused a hole two inches in diameter to be drilled twelve feet in the bottom, at a trifling expense, that struck a vein of water that rose up into the well and has furnished a plentiful supply for house and barn most of the time since.

One of your correspondents inquires for the cheapest and most powerful stump puller, and is directed to a triangular frame of timber placed upright and the chain drawing over in a notch in one of the points, and hitched down to a root on the opposite side of the stump. This is a good device so far as it goes, but more power is needed for large stumps. In addition to this, buy a common tackle and falls with double blocks and one inch rope, to cost ten or twelve dollars. This is needed by every farmer for many other purposes; such as dressing hogs and cattle, moving heavy stones, logs or small buildings. Hitch the head block to the chain over the triangle, and the other block to a chain fastened to another stump, tree or, if nothing better, to a post, down close to the ground. Hitch a good yoke of oxen to the rope, by taking a peculiar turn in the rope called a "cat's paw," into which hook the draw chain of the oxen and pull! Never a stump was found too stubborn to leave its native bed, short of the rumored big ones of California.

I have some one-year-old heifers that last year took to gnawing wood, stones and brick. They looked gaunt and poor, though fed on good English hay, which they ate languidly, preferring thereto oat straw, hard corn stalks, *alias* Dr. Loring's "meanest of fodder." I gave them clear bone meal, which they devoured more greedily than Indian meal. They shortly improved in appearance. Mine is not a solitary case; many cows have been gnawing board fences, bricks and red stones. I have considerable swamp hay that is hard to eat, and when eaten is but little worth. I tried lime and salt in curing, some years since, and found that to be a humbug. I have tried bone meal and salt on this hay, and the cattle eat it as greedily as they would any English hay. I believe that fifty pounds of bone meal in a ton of meadow hay would make it fully equal to as much good English hay.

An abundant crop of apples the past year has brought the farmer but a poor reward for years of care in raising orchards, and for the loss of a portion of the best land in his fields, devoted to the trees, owing to his stupidity in allowing middle men to set the prices for him. Apples are now forty cents a peck in Boston to the consumer, and only $1.50 a barrel to the producers in the country. I think farmers should form associations, like mechanics and other business classes, and fix their own prices and place honest men in the cities, as commission men, and dispense with speculators and middlemen, thereby making it better for producer and consumer. Until farmers as a body are ready to devise some measures for their own protection, they may well complain of the unprofitableness of agriculture. They will find to their sorrow that an eternal delving and straining of the sinnews in physical force upon the soil, undirected by a corresponding effort of the brain, can never bring competency or wealth to them. Two serious barriers hedge up his way to prosperity, viz.: high taxes and high labor. The last being the cause of the great disparity of agriculture with us and the old world. The laborer here receives as much for a day's labor as he does in many of the European countries for a week. Yet such are the prices of imported and manufactured goods consumed by the laborer that he can hardly live and support his family on less wages than he now receives. Hence until some modifications of the above named obstacles in the way of the farmers are effected that shall not cause the machinery of the body politic to grate harshly on the interests of other classes, the great profitableness and prosperity of agriculture must remain amongst the things that "were, but are not." M. J. Harvey.

Epping, N. H., 1871.

INFECTIOUS GERMS.

The spread of the new cattle disease, *epizootic aptha*, in this country, under circumstances so remarkable, has awakened in the minds of farmers and others a desire to learn something of the nature of the contagious principle, and the mysterious manner in which it is communicated from one animal to another.

An agent of infection so subtle that a dog or cat walking through a barn where diseased animals are kept, and then running four or five miles in the open air and entering another barn, infects a herd of healthy animals without contact, must be regarded as extraordinary in its nature. After all, it is no more extraordinary or wonderful than the infectious germs of small-pox, scarlet fever or measles, which are readily conveyed very long distances in the clothing, and in the air, and which remain uninfluenced by meteorological agencies, heat and cold, wet and dry. The susceptibility of different individuals to the influence of contagious germs is no less wonderful than the nature of the germs themselves. It may be said that no two persons are affected alike by them, and it is probable that the same difference prevails among animals. Indeed, we have instances of some herds attacked by the new disease, in which five, ten and even twenty per cent. of the animals remain in perfect health. They are confined in the same stalls with those diseased, and breathe the poisoned air night and day, and yet not a function is disturbed or a vital movement interfered with. Among human beings, we know that a physician, nurse, or any person leaving a room in which there is a patient sick with scarlet fever or measles, may, in passing a child upon the opposite side of the way,

communicate to it the disease; while during the same walk, another may be taken in the arms and suffer no detriment. There is a small class of persons who can never be brought under the influence of kine-pox virus, and such are usually greatly distressed in consequence of this idiosyncrasy of organization. There is but little occasion for anxiety, however, for such will usually escape the more severe disease of small-pox, if exposed to infection. In our view, those who are most readily and severely influenced by vaccine virus are the persons who will be most likely to contract varioloid, when brought in contact with the germs of small-pox; so that the feeling of safety cherished by such is not well founded. There are individuals and families in every community who are continually suffering from every form of malaria, poison, and contagion known to medical men, and certainly they are deserving of sympathy. Personal cleanliness and the strict observance of all hygienic laws are of no avail with thousands in warding off these disturbing agencies; they are the victims of an organization susceptible to the malign influences of poisons and contagions which lurk constantly in the atmosphere, and even in food and drinks.

We know but little regarding the exact nature of the germs which are capable of implanting disease in the system. That they have substance and form, no one can doubt. As distinct atoms or particles of matter, they are inconceivably small, and capable of being buoyed up or supported in air, and carried from place to place through its agency. In a barn containing animals suffering from pleuro-pneumonia, or from the epizootic aphtha, we must suppose the atmosphere to be loaded with the infinitesimal particles. If our eyes could be opened so that we could see the particles as we see snow-flakes in the winter, what a fearful spectacle would be presented! The disgusting, poisonous atoms would be seen flying in all directions and resting upon everything; upon the clothing of those in charge of the animals, upon the hay, upon the manure, floors, scaffolds, and upon the backs of any dogs, cats or birds which might be present. A perfect shower of infectious spores would be seen to prevail, and probably we should no longer wonder how the poison is carried so rapidly from one point to another. It is probable that when one or more of these germs are taken into the system through the organs of respiration, a kind of fermentation is set up in the blood, analogous, perhaps, to that which occurs in vegetable substances during the vinous or acetic change.

In studying disease, or any of the changes which occur in the animal organization, we must constantly bear in mind that the body is simply a piece of chemical apparatus, and that all the movements or changes that occur are simply chemical reactions of one form or another. The disease germs themselves are chemical substances; and the difference in chemical composition gives rise to the different forms of blood poison which manifest themselves as scarlet fever, measles, typhus, &c., in human kind, and pleuro-pneumonia, hoof and mouth disease, &c., in animals.

There is reason to suppose that scarlet fever, measles, and typhus ferments resemble albumen in complexity, and like albumen they may be altered in composition and action by heat, alcohol, and other agents. Small pox ferment is of a different kind, and is remarkable for the small quantity of substance which produces such extraordinary changes. An atom so small that a microscope of the highest power is incapable of defining it, enters the system through the lungs, and passes on into the blood, and from thence into every texture, nerve, and secretion. In a few days the chemical actions of oxidation and nutrition throughout the whole body are completely altered, and the little particle of matter has reproduced itself infinitely. Pustules appear over the whole skin surface, each one loaded with an infinite number of germs identical in nature with the original particle which set in motion the train of disorganizing forces. There is general peroxidation going on; there is inflammation of the ears, the eyes, the mucous membranes, the joints, the serous membranes; everywhere there is great chemical disturbance. This is *small pox*, and the terribly disgusting, wretched condition of the bodily functions is due to the introduction of a particle so infinitesimally small that no optical instrument can discern, and no balance can weigh it.

The poisonous germs producing intermittent fever, or *fever and ague*, from whatever source they may arise, are probably of a highly complex and nitrogenous nature, and are capable of being dried and carried great distances by the wind. They enter by the mouth with the dust, pass into the blood, and soon produce a kind of fermentation, which results in high fever preceded by a chill. After this is over, the poison is spent in part; but during the remission of from one to three days, sufficient is reproduced to go through the same action again. This remarkable poison, producing intermittent chill and fever, will work on, unless utterly destroyed by medication, until the victim is so far weakened as to falter and die. The ague ferment is totally unlike that producing small pox and measles, for by the action of the latter the textures of the body are so changed that they are incapable of going through the same process again; but one can have ague a dozen or more times in the course of his life. It is indeed a great mercy that some of our worst zymotic or infectious diseases can attack us but *once*.

We might as well expect to learn the nature of soul or spirit, as to expect to obtain any precise knowledge of the chemical differences in the germ poisons which affect men and animals. How can we ever know any-

thing regarding the actual difference between a germ producing pleuro-pneumonia or disorganization of the lungs in a cow or ox, and one producing suppurating sores and ugly ulcers in the mouths and hoofs of the animals? Both are specific poisons, exerting specific action upon different parts of the animal organization. It is inconceivable how this can occur; and yet perhaps it is no more inconceivable or mysterious than most diseases, which, after all, are but derangements of the chemical reactions or forces of the animal economy.

We can manage and control chemical changes quite perfectly when they occur in organic bodies, and, thanks to science, we can manage tolerably well those which occur in the human or animal organization when they happen under ordinary conditions, and are not of too violent a nature. There is a class of reagents called "remedies," which, when rightly used, serve to control in some degree destructive chemical action in the body. We have learned that the poisonous germs which we have had under consideration cannot maintain their vitality in the presence of certain chemical agents, among which are carbolic and cresylic acids, sulphurous acid, the chlorides of some of the metals, etc. These destroy the life of spores, as arsenic or prussic acid destroys life in the human body, and therefore they are the proper agents to employ to arrest the spread of infectious diseases. By the exercise of proper caution, and by observing the laws of hygiene, by keeping the body clean, and the blood in good condition, by plenty of air and exercise, we can in a considerable degree fortify ourselves against the attacks of poisonous germinal affections.—*Dr. Nichols in Journal of Chemistry.*

THE AMERICAN IMPROVED IMPERIAL SUGAR BEET.

We published last year what information we could obtain in relation to the cultivation of this variety of roots for farm stock. We have recently received inquiries for further particulars, which we have been unable to answer until now. The following article is annished by Mr. Henry Lane, of Cornwall, Vt., who has had much practical experience in raising these beets, and also the seed which is advertised in this paper.

Soil.

A light sandy soil is least suitable to the growth of the sugar beet, while the various loamy soils, and especially those containing a large proportion of clay, are best adapted to its growth.

Preparation of the Soil.

In the first place, all stagnant water, either on the surface or within reach of the roots of the beet, should be removed by thorough drainage. Although the beet requires a large amount of moisture to carry on a vigorous and healthy growth, yet I know of no plant that will show the presence of stagnant water quicker than the beet, by its assuming a yellowish hue and sickly aspect. It will not extend downward its usual length, but on reaching water will divide into numerous small fuzzy roots, which spread in all directions, to the great injury of the crop; hence in the preparation of most soils, and especially clay soils, thorough drainage is necessary. Land intended for beets should be kept in a high condition by a liberal application of fine manure,—at least twenty-five loads per acre. If your soil contains quite a per cent. of clay it should be ploughed in the fall, as the action of the frost will mellow it. Avoid sowing on turf land, for the turf will obstruct the tap-root and thus induce a development of fuzzy lateral roots, much to the injury of the crop. After the manuring and ploughing has been done, harrow the ground until mellow, ridge with the double mould-board plough, making the ridges thirty inches apart, and flat down the ridges with a garden rake. I sow with a seed sower, at the rate of four pounds of seed per acre.

Time of Sowing.

The success of the crop depends very much upon early sowing. The very first suitable weather after the frost is out and the soil sufficiently dry to be worked should be improved even if this is as early as the middle of April. Beets after growing to one-half inch in thickness, form a concentric ring or layer about every fifteen days; these vary in number from six to ten, depending upon the length of the season after planting. The oldest leaves are those at the bottom of the crown and are in direct communication with the oldest and central layer. As new leaves are formed new layers are formed, the central leaves on the top of the crown communicating with the last and external layer; each succeeding layer being external to the one preceding it, the diameter and bulk of the root increases in an increased ratio,—the last two being at least equal to the four internal ones, consequently doubling the crop, and this generally after the first of September.

Distance between Rows and Plants in the Row.

I would not have the distance between the rows less than two feet, nor more than two and one-half feet. This latter distance I consider the best, as it gives more space to run the cultivator. It is always better that the crop should be made up of large sound roots than that it should consist of a great number of smaller ones, even though the weight be the same per acre. The large roots require less labor from the singling out to the final harvesting of the crop, and indeed till they are fed out. I have the plants eighteen inches apart in the row. If the plants stand eighteen

inches by thirty, there will be 11,616 per acre. At this distance, each beet weighing eight pounds, would give to the acre forty-six and one-half tons.

Singling and Hoeing the Crop.

After the plants have put forth their second pair of leaves, the cultivator should be run between the rows, and the bunching should follow. This is done with a hoe, cutting out twelve or fifteen inches, leaving about three inches in the drill untouched all along its length. Soon after bunching, the singling and weeding should be performed. After the singling out and the first weeding is performed, the after labor is all accomplished with the hoe and cultivator, requiring but little more labor than an ordinary hoed crop. Beets require a large amount of moisture, and frequent tillage, keeping the surface light and porous, the soil will retain this necessary moisture.

Harvesting.

In ordinary seasons, the middle of October is the best time for harvesting this crop. This variety of beet can be lifted by hand without the use of a fork. The roots when pulled are left lying in the rows until dry, the tops are removed by wrenching them off by hand, or cutting with a knife. If the knife is used, care should be taken not to injure the crown of the beet. As the tops are removed, place the roots in heaps to dry and go through the sweating process, previous to their removal to the cellar. Protect them at night and from storms, with their own leaves. After two or three days, they can be stored in the cellar for winter use, and if stowed dry, will keep sound, even if hundreds of bushels are placed in one pile.

Cost of Raising.

If we will make a field crop of the beet, avoid the old practice of doing all the labor with the hoe, thumb, and finger, giving them clean culture by the frequent use of the horse cultivator, they can be raised for five cents per bushel, of sixty pounds. At this low cost, and considering their great value as food for cattle, sheep, and swine, how can a farmer think of wintering his stock without his cellar of roots? This subject is well deserving the attention of all farmers. HENRY LANE.

Cornwall, Vt., 1871.

FUTURE WEALTH OF THE UNITED STATES.

Mr. E. P. Whipple contributes to the March number of the *Atlantic Monthly* a very readable essay which he styles "Shoddy." Of the future resources of this country he takes a very hopeful view, as will be seen in the following extract:—

"Of the enormous undeveloped resources of the United States, it is difficult to speak without an appearance of exaggeration. The taxable value, which all men of property well know is far below the exchangeable value, of all the property in the United States was, in 1860, in round numbers, $16,100,000,000, showing a rate of increase, in ten years, of a fraction over one hundred and twenty-six per cent. It has been computed that if this rate is preserved through the next four decades, the taxable value of the United States would, in 1870, be $36,500,000,000; in 1880, $82,800,000,000; in 1890, $187,300,000,000; in 1900, $423,300,000,000—an increase of wealth which will be over eight times our estimated increase in population. Vast as these sums appear, drowning in their sound all shoddy groans over our predicted financial ruin, and making our big debt of two billions and a half shrink by comparison into dwarf-like dimensions, there is no reason that they should not be realized provided the brain of the nation adequately seconds its hands. Massachusetts, with an area of only 7800 square miles, now owns a seventeenth of the whole taxable property of the nation. If the other States, with greater natural advantages, should increase, during the next thirty years, so that their wealth should bear the same proportion to the square mile of territory which the wealth of Massachusetts now does, the property of the nation in 1900 will be $415,000,000,000."

GRAFTING GRAPE VINES.—At a recent meeting of the Horticultural Society of Western New York, D. S. Wagener gave a description of the method he adopts in grafting the grape vine. He grafts from early spring till last of June. The grafts are cut early the previous winter and packed in saw-dust. He grafts a little below the ordinary surface of the ground and covers with earth. The moisture of the soil is preserved by two inches of mulching. The cleft is sawn in without splitting. He has set the Delaware and Isabella roots with good success, and in one instance had a crop of grapes the same year. A strong stock is desirable, such as Isabella, Catawba, and Diana. The Rebecca does better on a strong stock than on its own roots.

A CHEAP HOT-BED.—Get a common, large "W" goods box,—as large as you like, or several of them if you need so many. Fill it with fresh, dry stable manure, and water it gently as you put it in. When the box is two-thirds full, put on about two or three inches of rich, fine soil, and sow your seed; then put a common window sash—or make one to fit—over it, and put the box in a sunny spot, sheltered from the north and west winds. Water occasionally, and give air on hot days. You will thus have plenty of fine plants at small cost. Even a common barrel will answer a pretty good purpose.—*Rural New Yorker.*

IS IT ECONOMICAL TO DRAIN?

Our "Walks and Talks" with the farmers of New Hampshire during the late winter, have developed the existence of a spirit of inquiry everywhere, indicating that there is more interest among farmers in their vocation than there has been at any time during the last twenty-five years. Transferring so much labor from human hands to horses and machines has afforded more opportunity for observation and thought, which in many cases have led to more profitable results in practice.

In a conversation with Mr. Benjamin Davis, of Chester, N. H., he stated some modes of operating in excavating for drains which materially reduce the cost of the work, and which may be adopted by all.

His farm is on one of those high swells which are common in that region, and are called granite soils; that is, soils made up, as we suppose, mainly of three minerals, quartz, feldspar and mica. But, as it is said by geologists and chemists that some varieties of granite contain lime and phosphates in fair proportions, we presume these swells do, for when not too wet they are fertile soils. They are quite adhesive, too, for most of them are underlaid by a stratum of clay, some twelve to eighteen inches below the surface.

Mr. D. commenced making ditches on some of the highest portions of his land, which were so soft as to make it slow and uncomfortable for both men and teams. He first ploughed, turning the furrows right and left as long as the oxen could walk in the ditch. He then made a yoke six feet long, which enabled the oxen to walk one each side of the ditch, and thus loosened the earth so that the work proceeded twice as fast as when they broke it up with pick and bar.

After going down about three feet, the bottom of the ditch was brought to a regular slope, stoned up on each side, and covered at the top with stones, thus leaving a channel six or eight inches square for the water to pass through. The ditch was then filled to within a foot of the surface with small stones and covered with the soil which had been thrown out. The bottom of the ditch was on the smooth hard pan, and will probably form a sufficient water-course for many years. No seeding or fertilizing was done. He gave the cold, standing water an opportunity to run off, and left Nature to pursue her own courses afterwards.

The results, he states, were surprising, and exceedingly gratifying; for where he had formerly cut less than a ton of hay, consisting mainly of a variety of water grasses, with a slight show of dwarfed timothy and redtop, he gets now from one and a half to two tons per acre of the latter varieties. The water grasses have disappeared. In another portion of the town, on similar land, on the farm of Mr. John West, the results of draining alone, were equally favorable. He states that in one year after the drainage was completed, on land where the yield of grass was scarcely worth harvesting, the crop of English grasses was too heavy to be comfortably made into hay on the ground where they grew!

Similar examples exist all over New England, and still there are thousands of acres of wet lands,—on the hills as well as in valleys,—which bear only a meagre crop of poor grass, which might be made, at little cost, to yield a ton or more of the best quality of hay per acre, annually. With cheaper modes of digging the ditches,—as Mr. Davis' practice suggests,—much more of this improvement will undoubtedly take place hereafter.

If farmers will make accurate comparisons between the profit of getting twenty tons of hay from twenty acres, and the same amount of the same variety of hay from ten acres, they will be much more likely to drain some of their lands than they will without such comparison.

Taxes on twenty acres instead of ten, fencing, ploughing and otherwise preparing, seeding, cost of travel over twice as much land, greater risk in drought, &c., are all to be taken into account. In one case there might be an abundantly compensating profit,—in the

other, just enough to eke out a subsistence, under a system of the most rigid economy, while the progress of the farm and its people would be downward, instead of upward.

NEW PUBLICATIONS.

THE AMERICAN HERD BOOK, containing Pedigrees of Short-horn Cattle, with Introductory Notes, by Lewis F. Allen, Buffalo, N. Y. Volume X.

Though tolerably well posted as to the rapidly increasing popularity of the Short-horn cattle in this country, we think most persons will be surprised by this bulky volume. Heretofore two years have intervened between the dates of previous volumes. This is issued only thirteen months after volume nine. Judging from the past, the editor assumed, in his prospectus, that probably some 3200 entries would be made, requiring a volume of 600 pages. But so marvellous has been the increase of American herds of Short-horns that the pedigrees offered amount to nearly 5000, and the volume is swollen to over 900 pages, without including the 72 portraits with which the volume is illustrated,—most of which are on stone, and all of superior workmanship.

The editor congratulates our Short-horn breeders on the success which has attended their efforts to increase this noble race of neat cattle; alludes to the fact that the American breeder has demonstrated that he can not only equal the English breeder in the merit of individual animals, but that the English breeder, recognizing the value of our American blood and breeding, now sends here for crosses to maintain and still further improve at home the blood from which they sprung; and speaks of the vast grazing regions opening at the West and South, wonderfully favorable to the growth and extension of Short-horn cattle, as well as of their increasing popularity in the older States. He also mentions the importation during the past year of cows which cost in England $7500, gold; and of sales here of cows at $3500 to $8000 each; and of $7500 being offered here by an English breeder for two yearling heifers of the Bates' Duchess family, and of $5000 and $5750 for bulls of American breeding.

The price of this volume, based on the conditions of the editors' prospectus of $6 for 600 pages and $1 per 100 pages additional, is $9 per copy by express and $9.60 by mail, post-paid. Remit by check on a New York bank, Post-office order, or registered letter, to the editor, Buffalo, N. Y.

FRANK FORRESTER'S Horse and Horsemanship of the United States and British Provinces of North America. By Henry William Herbert, author of "Frank Forrester's Field Sports," "Fish and Fishing," "The complete Manual for young Sportsmen," &c. Revised, corrected, enlarged and continued to 1871, by S. D. & B. G. Bruce. With thirty original Portraits of celebrated Horses. In two volumes. New York: Geo. E. Woodward, Publisher, 191 Broadway. 1871.

Because we do not approve of the union of the race course and the agricultural fair, it is not necessary that we should disguise our admiration of the horse, nor our interest in horse books. "The Horse of America," by Henry Wm. Herbert,—better known as "Frank Forrester,"—was published in 1857, and has long been recognized as standard authority by horsemen. The present beautiful edition continues the pedigrees, performances and the importations of both thoroughbred and trotting horses down to 1871, including histories of Asteroid, Kentucky, Dexter, Lady Thorn, Goldsmith Maid, Thornedale, Bashaw, Jr., Rysdyk's Hambletonian, Ericsson, Edward Everett, Young Morrill and imported Leamington. Twelve new steel engraved portraits of the most famous representative horses have been added to those in the first edition, making thirty in all. The "Racing and Betting Rules of the American Jockey Club," the "Rules of the Kentucky Association," and the "Rules and Regulations of the National Association for the Promotion of the interests of the American Trotting Turf," are also given. The work is published in good style; the two volumes comprise about 1300 pages, and are sold for $15.

THE APPLE CULTURIST. A Complete Treatise for the Practical Pomologist. To Aid in Propagating the Apple, and Managing Orchards. Illustrated with Engravings of Fruit, Young and Old Trees, and Mechanical devices employed in connection with Orchards and the Management of Apples. By Sereno Edwards Todd, Author of "Todd's Young Farmer's Manual," "American Wheat Culturist," "Todd's Country Homes" and "How to Save Money." New York: Harper & Brothers. 1871. 334 pages.

Those familiar with Mr. Todd's previous publications, so fully enumerated in this title-page, will know what to expect of the present volume; and the admirers of his style will not need any commendation from us. We are however a little surprised that the discovery of the fact that "there is no little manual on apple orchards in all our agricultural and pomological literature which a beginner may study as a reliable guide in every branch of apple culture," should have been made so late as 1870, by Sereno Edwards Todd or any other man. But the deficiency is now happily supplied, and at last we have a book in which "a satisfactory answer will be found to almost any question that an inquirer after pomological truth touching the apple may ask." The author hopes to induce beginners to plant trees in early life, but for the encouragement of those who have put off the work to old age, he tells the story, on page 17, of a man in Ohio, who planted an orchard after he had passed the age of threescore-and-ten, and lived to eat fruit for several years from that orchard, and "to get drunk on the cider made from the apples of those trees!"

TO CORRESPONDENTS.—We owe you, good friends, one apology which we are always glad to pay,—and that is to give the reason why we are unable at this season to publish promptly all the articles which you have prepared for our columns during the long evenings and comparative leisure of the winter months. Our long columns, compact type, and condensed style are not quite equal to the

task of keeping up with your pens. As the evenings are shortened, and as spring's work comes on, we shall gain on you. Large as is the pile of deferred letters now, we shall wish it was larger by harvest time. None of your favors will be overlooked or forgotten.

THE FOOT AND MOUTH DISEASE.

When the Commissioners on Contagious Diseases among Cattle for Massachusetts first issued their order to prevent driving cattle from the markets into the country, there was much discussion among market men and farmers in relation to the subject,—many of the dealers, especially, regarding the inhibition as arbitrary and unnecessary. The reports in relation to the extreme contagiousness of the disease were discredited by many. We chanced to be present when a company of some twenty butchers and drovers were conversing on the subject. A person present stated some facts which tended to show that the disease might be communicated to his own herd by a person who should visit diseased animals in the stable of a neighbor, by the virus which might adhere to his boots or other parts of his dress or person, and thus be conveyed to his own stock. The probability of the truth of this statement was promptly questioned by several, and the individual who made it was told that he had better spin his yarns among those who knew less about cattle and their diseases than men who had handled stock all their lives. "If that is the case," said one, "none of us should be allowed to walk the streets, and the commissioners ought to arrest and shut up every one of us." "Or," replied another, "it might be better to arrest him who goes about making such absurd statements."

The subsequent experience of stock owners in Massachusetts has at least demonstrated the fact that the disease is very contagious, and we think our readers will be interested by an article in another column on this subject, written by Dr. Nichols.

EXTRACTS AND REPLIES.

TUMOR IN A STEER'S CHEST.

Can you or some member of our worthy Club tell what was the matter of my neighbor's steer, which was first discovered to be unwell in the morning, by his being somewhat bloated and appearing to have a chill,—(the weather was mild.) By stirring him around the yard, he ceased to shake, but continued to bloat until his skin was as tight as a drumhead. He dunged quite natural, but seemed in great distress, and died in the afternoon. My neighbor gave the common dose, soap and molasses, &c., and bled him in the tail, which did not relieve him.

On a *post mortem* the only thing we could discover which would cause death, aside from the bloat, was in the neck, a little above the brisket, surrounding the *swallow* pipe and above the windpipe. Then there was a *gelatinous mass* filling a cellular tissue for about eight inches; said mass being of yellowish, translucent appearance and forming a tumor or swelling as large round as a half gallon measure. The lungs were collapsed and a little blotched with dark bloody spots, but nothing more than we often see in dressing a beef creature, only the spots were darker colored. Now, Mr. President, what killed the steer? T. B.

Addison County, Vt., Feb. 18, 1871.

REMARKS.—It is our opinion that the steer in question died from the mechanical effect of the tumor, or gelatinous mass, which surrounded the *esophagus* or "swallow pipe." We think a tumor could not grow to the size of the one described, and in that situation, without pressing the *trachea* or "wind pipe" to such an extent as to prevent the free passage of *oxygen* to the lungs, and of *carbonic acid* from the lungs. Consequently, the function of respiration was imperfectly performed—so imperfectly, indeed, at the last, that the carbonic acid, thus accumulated in the system, produced its legitimate effect; that is, it poisoned the animal. Carbonic acid is a narcotic poison; and, when it exists in the living animal or person, in any considerable quantity, whether generated within the body or introduced from without the body, it is sure to kill. The bloat, or accumulation of the gas within the abdomen, was, doubtless, produced by the same cause.

Now, if we could know what caused the tumor, we should be in possession of the entire chain of morbid causes connected with the case. But the primary or exciting causes of that abnormal action which results in the growth of a tumor, are not well understood. Blows and other mechanical injuries are oftentimes the cause; but tumors of various kinds make their appearance in beasts and in men, which can be traced to no cause of which we have knowledge. We know them to be the product of the abnormal development of *cells*, having a peculiar form, but concerning the cause or causes of such a development, we are very much in the dark. J. H. S.

CULTIVATION OF MUSTARD.

Will you or some of your readers give us some information on the cultivation of the *mustard seed;* stating where it is chiefly raised, the soil best adapted to its cultivation, the quantity of seed required per acre, manner of cultivating and harvesting, and the yield that may be reasonably expected per acre. Some of us here think we must raise something for our Eastern markets, which, like gold, will represent great value in a small bulk. D. S. CHASE.

Fremont, Nebraska, 1871.

REMARKS.—Possibly some of the readers of the FARMER can answer your questions. We can do but little towards it. We believe mustard was raised over thirty years ago on the rich soil of the Muskingum River in Ohio, and in other parts of the West. It was sown in rows two feet apart, and the plants one foot apart in the rows, and tended in garden style. The seed on the lower branches ripen first, and hence it is necessary to cut them off at different times, because if all is harvested together the seed in the upper branches is immature, shrinks, moulds and injures that well ripened. The yield is from ten to fifteen bushels per acre, though

as high as seventeen or eighteen have been produced.

POULTRY ACCOUNT.

Below you have my year's account of fowls and ducks, which shows rather small profits the last year. Owing to ravages of cats and rats I was obliged to sell them as soon as hatched, and purchased grown up fowls for this year's stock.

Stock, January 1, 1870.		*Dr.*
31 fowls, Brahmas and Leghorns at 75 cents	$23 25	
12 Muscovy Ducks, at 75 cts,	9 00	
		$32 25
Cost of Keeping, &c.		
5 bush. corn siftings	1 00	
31 b. shorts, $12.25; 24 b. meal,	37 65	
24 b. C. corn, $25.30; 30 b. corn, $30.95	56 25	
24 b. oats, $17.65; 27 fowls, $24.15	41 80	
1 drake, $1.50; 3 doz. Leghorn eggs $1.35;	2 85	
316 lbs. scraps, $6.32; Sulphur, $1.26	7 58	
Pepper, 70c; nails 21c.; bucket, 35c.	1 26	
W. brush, 75c; boxes, 40c; g. bone 15c	1 30	
Dressing poultry and labor	14 00	
41 doz. and 8 hens' eggs set, at 37½c.	15 61	
18 doz. and 8 ducks' eggs set at 47c.	8 78	
		$188 08
Total,		$220 33
Stock, January 1, 1871.		*Cr.*
37 fowls at 75c, Brahmas and Leghorns,	$27 75	
12 ducks at 75c, Muscovy,	9 00	
11 late chickens, at 50c.	5 50	
		$42 25
Stock and Eggs sold.		
114 doz. and 11 hens' eggs, at 37½c.	43 30	
7 doz. and 8 ducks' eggs, at 47c.	3 82	
82 chickens, $62.39; 105 ducks, $63.27	125 66	
28¼ bbls. manure, $28.50; feathers, 75c.	29 25	
		$202 03
Consumed in the house.		
54 doz. and 3 eggs' at 37½c.	20 34	
17 doz. and 6 ducks' eggs at 47c.	8 22	
5 ducks 30½ lbs. at 25c. ₩ lb.	7 62	
		$36 18
Total,		$280 46
Cost and expenses		220 33
Profit		$60 13

I now have 36 young chicks hatched since Jan. 4, and 4 hens sitting. JAMES BUFFINGTON.

Salem, Mass., Feb. 18, 1871.

KNEES OF A HORSE INJURED BY STANDING ON INCLINED FLOOR.

I would like to inquire for a remedy for a horse whose knees have been sprung for want of exercise and by standing on a steep floor. The cords are not set and he is not lame. He can straighten his knees but they are a little inclined forward and seem to be weak. He has not been in this condition but a little while, and is a valuable horse.

D. B. THURSTON.

Franklin, N. H., Feb. 20, 1871.

REMARKS.—Dr. McClure recommends the frequent application of cold water, by bandages or otherwise, for cases of slight strains. And for a liniment, two ounces each of oil of olives, oil of turpentine, and tincture of aconite roots, mixed and applied once a day until the skin becomes a little rough or swollen. Others may know of a better treatment of this particular case.

KILLING BUTTERFLIES.

E. N. S. will find crushing the thorax between the thumb and finger (wings turned back) as practicable as any method of killing butterflies or moths. It is very easily performed, and not attended with the inconvenience of always having some suitable vessel at hand in which to despatch the specimen, when benzine or ether is used as the life-destroying agent.

A butterfly or moth should not be left to become dry or stiff before being put upon the pinning board, the wings drawn forward into a natural position and secured by light weights, then left to "*set*," to speak in collectors' terms, which will require from fifteen to twenty days for butterflies, and longer still for moths.

Procure the Report of the Department of Agriculture for 1868, which contains some very practical instruction in these matters, describing the method of pinning, the best pinning board of which I have any knowledge, and various other "traps" convenient for collectors.

I have learned by experience in these matters, allow me to add in this connection, that *alcohol tinctured with sulphuric ether*, in which to kill beetles, is preferable to pure alcohol, or any "solution" whatsoever. It appears to preserve better that metallic lustre with which so many insects belonging to the order Coleoptera are so beautifully marked. E. M. GOODWIN.

Hartland, Vt., March 6, 1871.

ORCHARD GRASS.

The more I become acquainted with this grass the better I like it. Not the least among its merits is its hardiness. It stood the hot, dry weather last summer better than any other valuable grass with which I am familiar. It should be sowed thick, I think two bushels not too much seed for an acre; and it must be cut early, before it is in full bloom, to have the hay of the best quality. On rich moist land it is as sure to yield three crops in a year, as is red-top to give one. Unlike clover, it never inclines to blossom but once in a season; the second and third crops are mostly leaves, and the best feed for cows in winter I ever grew. It is a good grass to sow in early spring with clover, but without grain. Two good crops of leafy hay may be counted on the first year, and three crops a year afterwards, as long as the land will carry it out. I believe it the best of grasses to sow where I intend to keep the crop up by top dressing. The dressing should be spread immediately after removing the hay, and should be well bushed down, then the new crop will come up and in a very few days, cover the ground and keep it from drying. I would recommend it to any one who is not afraid to begin haying the last of May or the first of June. By the 10th of June it is in full bloom in this latitude, and past its best condition for hay. I have grown it five years, and like it so well that I intend to sow it this spring on the whole of my reclaimed meadow. A. W. CHEEVER.

Sheldonville, Mass., Feb. 15, 1871.

BARN ITCH.—BIG PORKERS.

I have taken the FARMER from its commencement, and often wish I had time and ability to answer some of its inquiries. I was interested by that in relation to the barn itch, as I have had animals troubled with that disease. I trade in cattle to fatten. On my cattle the trouble commences around the eyes; the hair comes off; the skin looks white and scurvy, and soon the disease spreads over the head and neck, and if not stopped, will extend all over the animal, and continue until the middle of summer. It causes excessive irritation of the skin. I have generally found cattle that have been wintered in cold places and on poor meadow hay mostly affected. It generally spreads throughout the whole herd that is kept in one barn or yard or pasture. When the itch is only in spots, sulphur, lard and tar in equal parts applied two or three

times will cure. Where cattle have had it two or three years, it is harder to cure; but add to the above ointment one-third as much strong tobacco juice and I have never known it to fail of curing.

Two good Chester County hogs have recently been killed in this town—one by Geo. Carpenter, 732 pounds, one by Jesse Dort, 643 pounds.

N. O. HAYWARD.

Gilsum, N. H., March, 1871.

RELIEVING CHOKED CATTLE.

A cow was recently choked by a piece of cabbage stump. One of the neighbors, after pressing externally on the wind pipe, said the piece was lodged just below the gullet. Others thought it must be lower down. So a whip stock with a ball on the lower end was pushed down her throat as far as possible, perhaps three feet. Then a rake handle was used, and entered the throat as far as a strong man could force it. Not removing the obstruction or relieving the cow, she was killed, and the piece was found where the neighbor referred to, said it was. Two other cases near here were similarly fatal. In one the gullet was supposed to be the obstruction, and it was smashed, and the passage to the stomach broken through by the force used to push the piece down into the stomach. A farmer said to me, he could relieve any ordinary case of choking at once, by holding open securely the mouth of the animal while his son passed his hand down the throat and removed the obstruction. Is there a safer or more certain method of relief?

WHITE SPECKS IN BUTTER.

At the late Vermont Dairymen's meeting the cause of white specks in butter was briefly discussed. As usual, when this subject is up, there seemed to be a diversity of views. These specks appear more common in the warmest weather of summer and the coldest of winter; caused, I have thought, by the high temperature of the air, in both cases, while the cream is rising. In summer a warm current of air or wind passes over the surface of the cream, and these specks, a cheesy substance, are formed, (*how*, science should explain) and in winter, the milk is set too near the fire, and a like result follows. If the milk is properly cooled at or before setting in summer, and the right temperature of the room maintained at all times, in both summer and winter, I think the specks will not appear. If this view is incorrect, will somebody tell us what *is* the cause. ROY.

HOW LONG A WAGON WILL LAST.

Mr. Rollin's statement about an aged wagon that had been used some forty years interested me much. I have worn out two new wagons in thirty years and am building my third one this winter. I think Mr. Rollin's wagon must have been housed most of the time. He also said he has had the tire set twice on the hind wheels and once on the fore ones. I find that I wear out three sets on the fore wheels where I do two on the hind ones.

S. DENHAM.

South Hanson, Mass., Feb. 18, 1871.

MILKING COWS TILL THEY CALVE.

A "Young Farmer" in your paper asks what is the foundation for the belief that it hurts cows to milk them up to the time of calving. From my experience of forty years as a farmer, I would answer, that a cow so milked will almost invariably become full of garget; she will have a small and inferior calf; it will cost more to keep her, and at eight or nine years old she will be used up as a good milker. While a cow in the prime of life, if kept properly and allowed to run dry two or three months in which to recruit, will come in naturally, remain healthy, and last much longer. I have known a large number of high priced cows spoilt by this practice. I remember one owned by a neighbor, which was considered the best cow ever owned in this neighborhood, which was spoilt by so milking. At seven years old, her udder became so full of garget that a hole rotted through on the side of the udder, and one-quarter turned inside out.

D. KIMBALL.

Bradford, Mass., March, 1871.

USE OF CARROTS FOR COLORING BUTTER.

I have used carrots for coloring butter for years through the winter season, and think there is nothing that excels them for making butter look nice and giving it a good taste.

For cream enough for eight or ten pounds of butter, I take two or three good sized orange carrots, scrape off the outside, then wash clean and grate them, then add from a pint to a quart of new milk, right from the cow; then stir it, strain through a cloth strainer and add the liquid to the cream before churning. MRS. J. B. JACOBS.

Willsborough, N. Y., Feb. 28, 1871.

MILK CLOSET.

In reply to the inquiry of "A Farmer's Wife," of Heath, Mass., in FARMER of Feb. 11, I would state that I have a wide door, which I leave open about an inch. It has a wooden button to fasten it, which I keep always turned, so that the door cannot shut close, and sometimes at night I leave it wide open. CARRIE.

Worcester Co., Mass., Feb. 11, 1871.

AGRICULTURAL ITEMS.

—It is surprising in what a poor soil a weed will thrive and rear its vigorous progeny.

—The average yield of corn to the acre throughout the Southern States last year was twenty-six and a half bushels.

—A Mississippi planter has raised fifty-two bales of cotton from fifty acres of land by Swedish labor, with which he is much pleased.

—Twenty-three sheep of a farmer in Greenfield, Mass., have had thirty-four lambs this spring—eleven pairs of twins.

—The lands of the agricultural college of Missouri comprise 240,000 acres Some of them will be for sale or lease by the 1st of March proximo.

—Mr. W. Bartholomew, of Sheffield, Mass., worked up about 19,000 bushels of apples in his cider mill this fall and winter.

—It is stated that the location of the farm of the Vermont Horse Stock Company is practically settled in Shelburn, Chittenden County, Vt.

—An Iowa paper tells of a smart wife who helped her husband to raise seventy acres of wheat. The way she helped him was to stand in the door and shake a broom at him when he sat down to rest.

—A Scotch farmer says that long experience has convinced him that for most purposes on a farm, gas lime is equal to quick lime, and it costs less than half.

—A hog raised in Illinois was recently butchered by Mr. Squires, of Boston, that weighed, dressed,

939 pounds. It measured eight feet six inches in length, and five feet five and one-half inches round. This is said to be the largest hog ever seen in Boston market.

—It is predicted that Florida will become one of the largest sugar producing localities on this continent. The climate and soil are admirably adapted to its culture, and the crop is sure.

—Fences should be built in season, and sufficient to stop the cattle, and make the farm to be secure; especially between your field and your neighbor's. Good fences save a vast amount of annoyance; bad ones are a fertile source of trouble.

—The whole number of market wagons bringing the different varieties of meat, vegetables, &c., to Faneuil Hall market, during the month of February, was as follows:—Variety, 68; hogs, 13; beef, 748; vegetables, 399; tripe, 69; mutton, 485.

—The statement is made, but we do not know on what authority, that the farmers of the United States annually expend $20,000,000 in reaping and mowing machines. The annual production is now estimated at about 125,000 machines.

—A correspondent of the *Prairie Farmer* travelling in Texas expresses the opinion that the supply of Texas cattle in the quantity brought forward during the last few years cannot continue, and that prices must necessarily advance.

—Michael Curtin of New Marlborough, Mass., on going to his stable one morning recently, found four of his cows choked to death in consequence of pulling the stanchion frame, to which they were fastened, over upon them.

—The country produced 1,100,000,000 bushels of corn in 1870, at the rate of twenty-eight bushels per acre, against twenty-three bushels in 1869. At fifty cents a bushel our corn product is worth twice as much as our cotton product at fourteen cents per pound.

—Sixty years ago a raft of hard-wood logs sank in Goose Pond, Swanville, Me. Last fall, during the low stage of water, some of them were recovered, and the Belfast *Journal* says they are as sound and firm as ever, with the exception that the layers of wood are separated, like ready-made basket stuff.

—General Grant has a dairy farm near St. Louis, with a fine stock of cows. A choice lot of Alderney and Holstein cattle, of vast milking capacities, together with a select number of Ayrshire heifers are also on the way to the Presidential farm, and it is said he will soon have the finest dairy in the country.

—A correspondent of the *Country Gentleman* gives the particulars of a case where a man's barn and all his winter stores of hay and grain were consumed in a night; his neighbors all turned out, built him a new barn at once, and offered to assist in wintering his stock, taking a head or two apiece, and returning them in the spring. Thus his loss was greatly reduced, and he was assured of the more durable riches of brotherly love and neighborly good will. No one can compute in money the value of one such example of a noble liberality in a community, especially in its influence upon the young.

—Mr. H. M. Arms, of Springfield, has sold to Mr. A. W. Griswold, Morrisville, Vt., the celebrated Short-horn bull, 4th Lord Oxford, by 6th Duke of Thorndale out of 2d Lady of Oxford; and Mr. A. W. Griswold has sold to H. M. Arms a very promising bull calf by 14th Duke of Thorndale out of 2d Lady Mary by Climax.

—The Durham bull owned by Alpheus Davis, of Charlton, Mass., and which won four first premiums, one at Worcester and three at Sturbridge, was slaughtered several days ago. He measured seven feet ten inches from head to rump, and his girt was seven feet nine inches; live weight 2160 pounds; dressed weight 1399 pounds; age five years.

—A correspondent of the *Maine Farmer* says:—"In the year 1856 I purchased an out farm for a pasture. There were some twenty acres of wood upon it. Finding a few small pines among the hemlocks, from two to four inches in diameter, I pruned them as high as I could reach. Lately I found them grown into tall trees over a foot in diameter, with no signs of where the limbs were taken off, with green, smooth thrifty bark."

—A correspondent of the *Western Rural* gives the following as his cure for scratches in horses, which he has used for several years, and says it is excellent for galls and most sores: One ounce red precipitate, one ounce Burgundy pitch, one ounce Venice turpentine, simmered in one pound of fresh lard or butter, well stirred while simmering. When the ointment is cool apply to the affected parts daily until there is no further occasion for the remedy.

—A market gardener of Lake county, Ill., says that he has the most remarkable success in the use of salt upon his tomato plants. He applies it at various times during the season, and in every case its effect is marked in the increased growth of both plant and fruit. In some cases, he lays the roots of backward plants bare, sprinkles them with a tablespoonful of ordinary barrel salt, and covers with soil. Plants treated in this way take an immediate start, and develop fine fruit.

—The Superintendent of the Chatsworth, Ill., beet sugar works, states that the entire crop of beets has been successfully manufactured into sugar yielding a fair per centage of the article, which readily sold in Chicago at fourteen cents per pound. The difficulty at Chatsworth is simply a lack of water in very dry seasons, which may jeopardize the enterprise, from inability to manufacture the product at a time when delay would cause a great loss of beets.

—The following from a correspondent of the *Country Gentleman* contains matter for thought and discussion: "An English tenant farmer, paying

a money rental half-yearly, and liable to be noticed out by a six months' notice, buys corn brought 3000 miles to fatten animals, chiefly for the sake of the manure. An American yeoman, owning his land and possessing capital to invest in other speculations, and in some instances living in first-class style, sells his hay and feeds no animals for the purpose of enriching his own property."

For the New England Farmer.

THE GARDEN IN APRIL.

Again we are brought to the commencement of busy out-door operations in the garden. Our first operation is the preparation of the hot-bed, and planting a few seeds of such plants as we desire to forward against the time of open-air culture. There is usually very little gained in hurrying seeds into the ground, except those of the most hardy varieties of plants, till May. Potatoes, peas, and one or two other varieties of similarly hardy seeds may be safely planted earlier, and a little time be gained, but for most varieties, seed planted when the soil and weather are such that germination instantly commences and goes steadily forward to maturity, gives us much more satisfactory results than when we have to wait a slow germination, and the young plants, after they reach the surface, stand, as if undecided which way to go. But if we wait till this time for all varieties, we may deprive ourselves of some that, with a little extra trouble, we might enjoy. It is possible for us to change the climate of a sufficient portion of our soil to supply a few desirable green vegetables which will afford us a very agreeable, healthful, and appetizing change, after our long season of stale vegetables and meat.

Asparagus.—This fine vegetable is worth much more than the trouble it costs to produce it in abundance, in any of our gardens. Rake off the coarser part of the winter covering of manure, and fork into the soil the finer portion, using great care not to injure the crowns. Spread on a sprinkling of salt, or sprinkle the bed over with refuse brine. A portion of the bed may be forced to produce cuttings somewhat in advance of the season by setting a hot-bed frame over it and banking closely all around it, and covering with the sash. New beds may be prepared and planted out as soon as the soil can be well worked, using good strong one-year-old roots, if to be had; if not two-year-old ones. The ground cannot be made too rich, or be worked too deeply for asparagus. The smallest variety may be made to grow large, rank shoots by extra high culture on deep rich soil, and any variety grows more tender and rich with such care. Plant so as to cover the crowns not less than four inches deep. Many otherwise good beds are much less valuable than they should be on account of planting too near the surface.

Bean-poles and Pea-brush.—If not got together and prepared for use, it should be done now, as cut later they are liable to leave out. Don't think that anything will answer for bean-poles and pea-brush, but select them with some reference to good looks as well as durability. The writer procured a lot of young, slim white pine trees, two to three inches in diameter at the but, cut them about eight feet long and sharpened them, after trimming the branches off neatly, and some of them are good and in use now, after having been annually used a dozen years, but they were taken up in the fall and cared for till the following spring. Pea-brush may be made to do service for two or more years; but we prefer to have them made of white birch, and procured new annually.

Beets.—The Early Bassano may be planted as soon as the soil can be well worked. The seed is slow in germinating, and will stand a considerable degree of cold while in the ground. Later sowing may bring as early plants by soaking and sprouting the seeds before planting. It is better to break open and separate the cluster of seeds, previous to planting, and then there will not be those little bunches of plants so frequently seen, as commonly planted.

Cabbage.—Sow seeds in the hot-bed; harden off, ready to transplant, as soon as safe in the open ground, the plants wintered in cold frames.

Cold Frames.—These will be found quite advantageous for starting tender seedlings, after being cleared of those already in them; also for pricking plants, from the hot-bed into.

Cress or Pepper Grass.—Sow in rows six inches apart. Sprinkle the young plants with ashes to keep off insects. This makes an agreeable salad, warming and appetizing.

Egg Plants.—Sow the seed in the hot-bed at once. Pot off or prick out into cold frames as soon as the plants are large enough. Varieties were named in February.

Horse Radish.—New beds may be planted, using the crowns or pieces of roots. Make the bed where it can remain, in rich, rather moist soil, as best. Liberal manuring and good culture will be rewarded by increased size of the roots.

Onions.—Seed may be sown soon as the ground may be worked. Sow in rich, clean soil. Peas, potatoes, radishes, lettuce, parsnips and salsify may be planted soon as the soil can be worked well. Prepare for planting all other vegetables as soon as the season will admit, in May. W. H. White.

South Windsor, Conn., 1871.

☞ The Maine Legislature is offering such liberal inducements and making such definite arrangements for immigration of Swedes to New Sweden, Aroostook Co., that a large in-

flux is expected this year. Immigrants are to come over under charge of a commissioner, and an agent at each end of the route will manage their interests—one at Gothenburg, Sweden, and the other at New Sweden. Each male immigrant over twenty-one years of age is to be assigned a lot of 100 acres of land, which will be his at the expiration of five years, provided he has built a comfortable house there, and has cleared not less than fifteen acres of land. The Swedes are exempt from State tax until 1876.

HOW WALKING STICKS ARE MADE.

Sticks are manufactured both from large timbers of from two to six feet in girth, and from small underwood of about the thickness of a man's thumb. The timber, which is chiefly beech, is first sawed into battens of about three feet in length and as many inches in width; and from each of these battens are afterward cut two square sticks, with square heads, in opposite directions, so that the middle portion is waste wood. The corners of each stick are afterward rounded off by a planing process called "trapping," and the square head is reduced by a small saw to a curve or rectangular bend, so as to form a convenient handle. When a number of sticks are brought in this way to the exact size and pattern, they are polished with great care, are finely varnished, and packed in boxes or bundles for the market. Many sawn sticks, however, are supplied with bone and horn handles, which are fastened on with glue; and then of course there is less wood waste, as a large number of them may be cut from one batten.

A very different process takes place in the manufacture of sticks from small underwood, in which there is no sawing required. The rough unfashioned sticks, which are generally of hazel, ash, oak and thorn, are cut with a bill in the same way as kidney-bean sticks, and are brought to the factory in large bavins or bundles, piled on a timber tug. There must, of course, be some little care in their selection, yet it is evident that the woodmen are not very particular on this score, for they have in general an ungainly appearance, and many are so crooked and rough, that no drover or country boy would think it worth while to polish the like of them with his knife. Having arrived at this place, however, their numerous imperfections are soon pruned away, and their ugliness converted into elegance. When sufficiently seasoned and fit for working, they are first laid to soak in wet sand, and rendered more tough and pliable; a workman then takes them one by one, and, securing them with an iron stock, bends them skilfully this way and that, so as to bring out their natural crooks, and render them at last all straight even rods. If they are not required to be knotted, they next go to the "trapper," who puts them through a kind of circular plane, which takes off their knots, and renders them uniformly smooth and round. The most important process of all is that of giving them their elegantly-curved handles, for which purpose they are passed over to the "crooker." Every child knows that if we bend a tough stick moderately, when the pressure is discontinued it will soon fly back, more or less, to its former position; and if we bend it very much, it will break. Now the crooker professes to accomplish the miracle of bending a stick as it might be an iron wire, so that it shall neither break nor "backen." To prevent the breaking, the wood is rendered pliant by further soaking in wet sand; and a flexible band of metal is clamped down firmly to that portion of the stick that will form the outside of the curve; the top end being then fitted into a grooved iron shoulder which determines the size of the crook, the other end is brought round so as to point in the opposite direction, the metal band during this process binding with increasing tightness against the stretching fibres of the wood, so that they cannot snap or give way under the strain. The crook having been made, the next thing is to fit it, or remove from the fibres the reaction of elasticity, which would otherwise, on the cessation of the bending force, cause it to backen more or less and undo the work. In the old process of crooking by steam, as timber-bending is effected, the stick was merely left till it was cold to acquire a permanent set; but in the new process a more permanent set is given by turning the handle about briskly over a jet of gas. The sticks being now fashioned, it only remains to polish and stain or varnish them; and they sometimes scorched or burned brown, and carved with foliage, animal heads and other devices.—*Chambers's Journal.*

How to Manage Sitting Hens.—1. Set the hen in a place where she will not be disturbed.

2. Give a large hen twelve or thirteen eggs, medium sized one ten or twelve, and a small one eight or nine.

3. Don't let the hen come out of the sitting-room until she has hatched, but keep her supplied with gravel, food and water.

4. When chicks are hatched, leave them in the nest for eight or ten hours.

5. Don't meddle with the eggs during incubation; turning them once a day, and all such foolishness, is apt to prevent the eggs from hatching.—*Southern Farmer.*

—A little Boston girl joyfully assured her mother, the other day, that she had found out where they made horses—"she had seen a man in a shop just finishing one, for he was nailing on his last foot."

Youths' Department.

OUR DARLING.

Bounding like a foot-ball,
Kicking at the door;
Falling from the table top,
Sprawling on the floor;
Smashing cups and saucers,
Splitting dolly's head;
Putting little pussy cat
Into baby's bed.
Building shops and houses,
Spoiling father's hat,
Hiding mother's precious keys
Underneath the mat;
Jumping on the fender,
Poking at the fire,
Dancing on his little legs—
Legs that never tire—
Making mother's heart leap
Fifty times a day;
Aping everything we do,
Every word we say.
Shouting, laughing, tumbling,
Roaring with a will,
Anywhere and everywhere,
Never, never still.
Present—bringing sunshine;
Absent—leaving night;
That's our precious darling,
That's our heart's delight.

THE MOCKING BIRD.

This Puck of the woodland wilds belongs exclusively to the South. He is brave, sociable and useful. He is a game-looking bird of quiet, gray color, with nothing about his plumage to separate him from the rough coverings of bark, and the pendant moss that hangs in such weird grandeur from the limbs of decaying trees.

Over the summer-house of the Southern garden, though occupied by visitors, the mocking-bird will perch, and curiously peer down on his human companions, as if he would divine their thoughts. He will sympathize with the sounds of human voices, and enjoys the conversation and the laughter and wrangling of children.

Under such circumstances, he will dash from limb to limb as if crazed with excitement, occasionally giving vent to his spirit in carols that are full of genius and heavenly melody; or, perhaps, inspired with some heroic idea, he will crowd into rapid measures the impotent resentment of the chicken hawk and the screams of the bald eagle.

And when evening sets in, and the moon rises over the charms of a Southern garden—when the night is warm, and the lettuce is up, and the door is open to catch a passing breath of air—when the flowers have gone to sleep, leaving their fragrance to literally load the air—when nature is half exhausted under this semi-tropical climate; the mocking-bird, perched upon some dead limb that protrudes beyond the rich foliage, will pour out his wonderful overture of sweet notes, inspiring all living things with pleasure and admiration.—*Appleton's Journal.*

A GOOD OLD BLANKET.

One of the gallant naval actions during the war of 1812 was between the *Enterprise* and *Boxer*, a Yankee and a British ship, off the northern coast of New England. A lady sends an account to a Portland paper of some mementos of captured British vessels, among which is an old "King George" blanket that don't seem to know how to wear out:

The *Boxer* was sold by government, and purchased by my father and uncle; but whether she was fitted for sea by them, or broken up, I do not now recollect. Among her relics I have in my possession a small cannon and cartridge-box, a chain-shot and a two-quart bottle (the last marked G. R. with a crow's foot.) I have also a very thick and large-sized woolen blanket, also marked G. R. with a crow's foot, burnt in, I think my father has told me, with powder, by what process I cannot conceive, and may be entirely wrong in my impression. This blanket has been in constant use in the family for more than fifty-five years—now covers my own bed—and seems to be good for as many more years, while it might have been used for as long a period before the naval battle between the *Boxer* and the *Enterprise* off our coast. This blanket is a significant comment upon these "shoddy" days. As some of your little readers may not understand what "G. R." means, let me say that they are the initial letters of Georgius Rex, or King George, one of the Georges being King of Great Britain at the time of the manufacture of the articles.